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ABSTRACTS

POSTER PRESENTATIONS

BURNS

PP-001

SNP and mtDNA Analysis by PLEX-ID Assay in Maternity Testing When the False Mother Can't be Excluded by 46 STRs Genotyping

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Objective: To reach an accurate conclusion, mtDNA and SNP analysis by PLEX-ID assay was applied to an extreme maternity case where the false mother and the child have at least one allele shared at autosomal 46 STR loci, giving inclusion of maternity with maternity indices of 3.3E+13.
Method: Genomic DNA was extracted using the Chelex-100 and proteinase K protocol from blood samples of the child and the adopting woman. The quantity of recovered DNA was determined by a spectrophotometric method. 19 autosomal STR loci plus Amelogenin were amplified using the AmpFlSTR® SinofilerTM kit (Life Technologies, Carlsbad, CA) and PowerPlex®16 System (Promega, USA) following the manufacturers' recommendations. An additional 27 autosomal STR loci plus Amelogenin were analyzed using two domestic kits AGCU 21+1 (http://www.agcu.cn/) and STRtyper-10 G (http://www.zhcodon.com/). Locus D19S433 was included in SinofilerTM kit and the domestic kit 21+1. Amplification reactions were carried out using the GeneAmp PCR system 9700 (Life Technologies). The amplified products were analyzed using 3130xl Genetic Analyzer (Life Technologies). Genotyping data were determined by GeneMapper v3.2.1 software. Additional assay was carried out that genotypes 40 ideal forensic autosomal SNPs (heterozygosity is near 0.5) identified in Kenneth Kidd's lab at Yale. Besides, mtDNA assay was applied that has 24 primer pairs in 8 triplex reactions for HVIand HVII.
Results: The alleged mother and the boy shared at least one allele at all 46 tested autosomal STR loci which yielded a very high maternity index between them. But, according to the SNP profile data for 40 autosomal SNP markers, different homozygous genotypes between the alleged mother and son at five exclusionary loci (rs7229946, rs985492, rs9951171, rs214955, rs1109037) excluded maternity. Mitochondrial profiles also clearly exclude mother as a parent of the alleged son because the two persons have multiple differences(i.e. the base compositions are not the same at the fragments 16102-16224nt, 16130–16224 nt,16154-16268 nt,16231-16338 nt,16256-16366 nt,16318-16402 nt in HV-I and 83–187 nt,113-245 nt,204-330 nt,239-363 nt,239-363,262-390nt in HV-II.
Conclusions: Different kinds of genetic markers are needed to supplement the use of autosomal STR loci in case where the alleged parent is suspected to be related to the true parent. In the case herein, ESI-TOF-MS SNP and mtDNA analysis using the PLEX-ID platform is more discriminating than STR genotyping by CGE method.

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PP-002

The Retrospective Analysis of 15 Burned Cases Caused by Laser and Solarium(Tanning Booths) in Beauty-Medical Centers Evaluated Between 2006–2010 in Istanbul Council of Forensic Medicine 3rd Specialization Board

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Introduction: It is a well known fact that since old times people are making efforts for their physical appearance. With significant progress in technology, laser epilations and tanning booths etc. (radiation and UV rays) became helpful aesthetically, making an impact in a very shortest time. Nowadays in large-scaled beauty-medical centers nearly all kind of laser and tanning booths can be seen. Since these machines are medical, they need to be used by doctors or medical staff.
Methods: Between January 2006 and December 2010, the demographic data of 15 people analysed retrospectively in this study whose physical examination held in Council of Forensic Medicine 3rd Specialization Board, who applied to beauty-medical centers for laser epilation, to erase tattoo, get tan in solarium (tanning booth) and as a consequence burn scars arose and they brought a suit against those centers.
Results: The average age is 32.13±8.2 of the total 15 people, 12 (80 %) of them is female. 10 of them brought suit for the bad consequences of laser epilation, 1 for needle electric epilation, 2 for erasing tattoo and 2 for getting burn in tanning booths. 7 (46.6 %) of 15 people were assessed in 2010. 2 people got burnt in tanning booth had 2nd degree of massive burnt; one of them died of burnt complications. 10 people who applied laser epilation had burnt scars and hiperpigmented lesions; 2 people who applied tattoo erasure by laser had burnt scars and cheloid tissue. 7 people stated they were not informed sufficiently, not any informed consent found in the dossier. In the reports of Council of Forensic Medicine; 9 (60 %) of 15 cases occurred by wrong medical application without any surveillance of experts.
Conclusion: The utilization of those devices increasing in a very short time by non-medical or uncertified people is forbidden. Within the frame of laser applications; different laser rays should vary according to the skin

and hair colour, allergen texture, like many other factors. After the application of laser epilation; for 1–3 days hyperemia may occur as an expected complication; before the application informed consent must be taken from the person. Similar cases may diminish if the increasing application of laser in our country especially in recent years are made by experienced medical employees and if informed consent of the person is taken.

PP-003

Self-ignition: a suicidal method between demonstrative gesture and psychopathological problems

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Suicide by self-ignition (burning), is a rather rare event, estimated roughly in the order of 1–1,5 % of Italian national statistics about suicides. It happens when one burns himself alive autonomously, by an action intense and concentrated over time, usually made (at least initially) with the aid of a liquid fuel spread on the body surface (oil, petrol, fuel, etc.), that guarantees rapid combustion and high temperatures, then maintained by the combustion of clothing worn by the victim.

In the literature, such events are rarely described, and usually happen in people suffering from personality disorder psychopathologies (relating to voluntary search to receive intense and cruel sufferings) or are carried out for demonstrative purposes ("ethical suicides" or "self-immolation") such as political or religious reasons (the so-called "bonzes" in historical reference to the suicide of Vietnamese Bonze Thich Quang Duc in 1965, and Jan Palach, anti-Soviet activist of the "Prague Spring" in 1969).

The purpose of this paper is sharing the experience of the authors, who had the opportunity to evaluate subjects died by self-ignition; the willingness to make a striking public protest gesture against their conditions of economic insecurity was clear in some cases, especially those concerning immigrants or subjects with socio-economic problems, professional troubles, people suffering from distance from the country of origin and their families.

In other cases, less frequent as observed by the authors, the self-ignition was not made as a gesture of protest, either directly connected to the main intent of ending their lives, but it was assessable in serious mental illness that afflicted victims.

PP-004

Fire-Related Deaths in The Temporary Housing After the Earthquake in Van City of Turkey

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Background: An earthquake, which lasted for 25 seconds, occurred in Van city of Turkey on October 23, 2011 at 13:41. In that region, 9 temporary suburbs were built which consisted of 3030 tents and containers for 19130 individuals. Even though the earthquake occurred in autumn, the construction for the new permanent settlement could not be finished before the winter. Electric and wood-burning stoves used for heating, led to the accidental fires in tents. The aim of our study was to analyze the fire-related deaths in the temporary housing.
Methods: The fire-related deaths occurring in the temporary settlement region following the earthquake in Van city were evaluated retrospectively. The deaths were assessed based on the age, gender, the cause of death, the place of death and the time of the death. Statistical analysis of the data was performed by using SPSS 16.0 Packet Program.
Results: A total of 10 deaths and 5 cases of injuries were reported in 16 fire incidents in Van and its vicinity. Only 5 cases of death were sent for autopsy, 2 of the cases were females and 3 were males. The age distribution was between 0–30 and the mean age was 14.2 years. Four of the cases were children. The cause of death was burn and burn-related complications in all of these cases. All of these incidents occurred in tents and in one event 3 cases were from the same family.
Conclusion: Although the earthquake is a natural disaster, which can cause a wide range of death and destruction, human factor can also be a significant contributing cause due to the negligence in the temporary housing. The stoves and electrical equipment in the tents can be hazardous and children are the most vulnerable group in these incidents.

PP-005

A case of spontaneous human combustion in Bulgaria – what and how is it happening?

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The scientifically documented cases of spontaneous human combustion, in the absence of a proved external source of heat are very rare. We present a case from the village of Piperkovo, the region of Russe, Bulgaria.

On 19th of February 2012 a combusted body was found on the floor in one of the rooms in a deserted house in a small village. There was no electricity and no other source of heat in the house. The body of an eighty year old woman who lived in the house, her upper and lower extremities were burned to ashes. The head, small parts of both arms and shanks and the clothes on them were not damaged by the process of burning. The medico-legal expertise of the case proved 35 % carbon monoxide in the preserved parts of the shanks.

All analysis during the investigation process failed to prove an external source of heat, which could explain the heavy bodily burns. A detailed photo-documentation of the case was made. The authors suggest to the participant in this scientific forum to provide their hypothesis explaining the damages in that case.

CHILD ABUSE AND NEGLECT

PP-006

Domestic physical and sexual child abuse by the father of the infant - Case Report

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Introduction & objectives: The incident referred to domestic abuse and thus to lethal physical and sexual child abuse by the father of the minor, a 24 years old Roma heroin abuser. The child's mother is a heroin abuser as well.

Case: We present a lethal case of 1 and 1/2 year old Roma girl who found dead by the mother some hours later. The incidence took place in their home, in front of the three older children. The victim was hardly physically and sexually abused: Multiple bruises were found (head / upper abdomen / buttocks / arms / legs). Sexual abuse with swollen, bruised labia major, vaginal and anal penetration injuries was present. The child died from severe craniocerebral injury with cranial fractures and brain injury.

Discussion & conclusion: In this case, a multi infant abuse is concerned, in which: 1) the coexisting severe form of sexual abuse (by nature and unnatural intercourse) with severe physical abuse, 2) the victim is very vulnerable to abuse in early infancy, where it there is no involvement in the crime, 3) the death occurred because the of abuse of the victim (severe brain injury). 4) the offender is the father of the victim (domestic violence), 5) the victim belongs to a socially marginalized and low wages, low socio-economic status of Roma social group. It is argued that in Greece about 68 % of head injuries in children younger than two years old and most deaths in this age due to abuse by their parents. The actual figure is rather higher because of inadequate identification of cases. On criminal side the perpetrator is responsible for homicide with intent (since there was deception even possible), but we believe that the distinguished character of particularly heinous murder. We believe that a thorough study of such severity incidents of child abuse will greatly facilitate the proper organization of detection and prevention (in the first and second level) and to face the very important issue of child abuse.

PP-007

Multi Child Abuse and Neglect (a case report)

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Introduction & objectives: Child abuse is the bad treatment of a child under the age of 18 by a parent, caretaker, someone living in their home or someone who works with or around children.

Case: We present a rare case of co-occurrence of domestic violence and three types of child maltreatment: physical child abuse, psychological child abuse, and child neglect. It concerns all six (6) children, a girl and five boys, aged from 2 ½months up to 10 years old of a family who were examined at the Forensic Service of Greek Ministry of Justice in the town of Larissa.

Characteristic presentations of the maltreatment and risk factors in family background are discussed.

Discussion & conclusion: The minors suffered physical and moral abuse. In civil law there is a significant breach of personality (Article 57CC) in terms of penal law there is influx of criminal acts committed by persistent, such as physical damage (Article 308 PC) rather dangerous (Article 309 PC), rape (Article 336 PC) in which there are at least accomplices (e.g. injuries) and associates (particularly directly). The underage of the victim is an aggravating factor for the perpetrators. It seems difficult to establish for them dwindling allocation, while the deceit is primarily first grade (objective).

PP-008

The comparison of the concentration of cytokines in serum between young and adult mouse exposed to single or chronic stress

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Introduction Child abuse is one of the most serious social issues in Japan, and it is seriously difficult that abused children re-integrate into society. Stress induces cortisol secretion, and the hormone also affects the immune system. The development of immune function was different from age, especially, pre and post puberty. After chronic stress exposure, it was considered that time of initiation of the exposure was one of the important factor effected to immune system. Thus, we investigated the level of cytokines concerning immune system such as Interleukin (IL)-1a, 1b and 2 in serum between young and adult mouse after single and chronic stress exposure.

Material and methods: 4-week-old (young) and 9-week-old (adult) mice were restricted as stress for an hour once daily for 2 weeks as chronic, or once at the last day of choric treatment as single. They were euthanized at 60 min after the last treatment. The blood was collected and centrifuged to obtain serum. No restricted mice were employed as control. The serum concentration of IL-1a, 1b and 2 was measured with MILLIPLEX MAP Kit.

Results and discussion: The level of IL-1a in young mice significantly increased but decreased that in adult mice of single and chronic treatment compared with control groups. The level of IL-1b in young significantly increased in single but decreased to the level of control in chronic. That of adult significantly decreased in single and chronic. The expression of IL-2 in young was similar to that of IL-1b. The IL-2 level significantly decreased at single and chronic in adult. Our results suggested that single and chronic stress exposure decreased IL-1a, 1b, and 2 in adult as corticosterone increased due to stress and suppressed both cytokines. But, IL-1b, and 2 in young was increased in single, and IL-1a was increased in single and chronic, although stress also induced corticosterone secretion in young. Unfortunately, we could not fully explain the difference of the results between young and adult.

Conclusion We showed that the increase of cytokines after stress differed by age. This result indicated that the pathophysiology of the response to stress might be different by age.

PP-009

Ruthless with his own child: report of a serious and complex case of child abuse

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Introduction: Child abuse, long neglected by both society and medicine is now a focus of public attention.

Child maltreatment is intentional harm or a threat of harm to a child by someone acting in the role of caretaker, for even a short time. Maltreatment is commonly divided into four categories: physical abuse, sexual abuse, emotional abuse, and neglect. Neglect is thought to be the most common of the four and probably the most life threatening.

Method: This is a case report about a serious case of child abuse that met the physical, psychological and sexual abuse in addition to neglect.

This case was a subject of expertise in Department of Forensic Medicine of Charles Nicolle Hospital in Tunis.

Results: It is a little girl of 9 years old who was brought by her neighbors to the emergency department. She reported being a victim of burns means of a heated knife and cigarette butts. She also reported being hit by punches and kicks as well as various blunt objects on different parts of her body.

Moreover, the child says he was sexually abused by anal and vaginal intercourse. Despite multiple fractures to his limbs and pelvis, she never consulted and has been forcibly confined by her parents in their home.

Examination at the medical report produced in our Department of forensic medicine confirmed the effects of burns and fractures in the pelvis and limbs. Examination of the genital organ showed signs of chronic sodomy and even vulvar lesions corresponding to genital herpes. Psychological effects were considered severe. Permanente partial disability was assessed at 67 %.

Conclusion: Child abuse is more than bruises and broken bones. While physical abuse might be the most visible sign, other types of abuse, such as emotional abuse or child neglect, also leave deep, long lasting scars. Physicians and others in the medical community play an important part in identifying possible victims of child abuse. Some cases raise profound questions about the relative rights of parents, children, and those charged with child abuse.

PP-010

Descriptive evaluation of the alleged child sexual abuse cases in Kartal district in Istanbul

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Objectives: It is important to understand the variables which are related to the abuser, the victim and the occurrence of the sexual abuse events to manage those cases both legally, psychologically and socially. In this study it is aimed to lay out the descriptive information of alleged child sexual abuse cases in specific region in Istanbul to design detailed prospective research and prevention techniques in the future.

Material-method: The medico-legal reports of Kartal Office of Forensic Medicine and verdict files of Office of the Chief Public Prosecutor Court concerning the alleged child sexual abuse cases which registered between years 2005–2010 are reviewed. One of the researchers visited the courts with the written permission of both Marmara University Ethical Committee and the Ministry of Justice. She investigated the related files and documented them in a classified manner. Statistical analysis is executed by SPSS 16.0.

Results: The total number of reviewed cases is 479 and of those, 118 verdict files were reachable to the researchers. Results indicate that %82.3 (n=394) of all cases consist of girls and the average ages of the genders are 14.5 (sd=2.40) for girls and 11.0 (sd=3.92) for boys.

It is found that in 65.3 % (n=77) of the cases, the crime committed in a house; the allegation types are aggravated child sexual abuse (only) (46.6 %, n=55), simple child sexual abuse (33 %, n=39) and the rest is aggravated sexual abuse with another type of crime (divest of freedom i.e.). %44.9 (n=53) of the cases are settled by the court and the verdict is imprisonment for 16 of these cases (30.2 %) and "not guilty" for 37 of the cases (69.8 %). The duration between the time when the crime committed and when the cases are settled is 14.9 (SD=1.24) months.

The most cited probable sexual abusers are male friends (61.9 %, n=73), strangers (15.3 %, n=18) and brothers (8.5 %, n=10) and the three most frequent age ranges of the abusers are 19–29 (44.1 %, n=52), 16–18 (18.7 %, n=22) and 30–39 (17 %, n=20).

Discussion: Determination of child sexual abuse cases in local districts is essential to understand geographical area specific needs of interventions. The most prominent result related to this region is that, juvenile girls are under the risk of being abused by their male friends. So it is imperative that the prospective prevention program has emphasis on self borders in both romantic and social relationship with the opposite sex.

PP-011

Algerian Law management of Sexual Child Abuse

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The authors report here the case of an older little girl of 5 years misused sexually by knowledge of the father and that lasting more than two years during the absence of the parents. We received the young girl accompanied by his mother at the department of legal medicine, on requisition of the national gendarmerie criminal division.

She was smiling, calm, state contrasting paradoxically with the ploughed up state of the mother.

The authors propose to expose the absence of judicial apparatus and social in the sexual abuses in the child, putting side by side the accent on the syndrome of Stockholm developed by this child, the legal definition which gives the legislator to the rape and the absence of penalization of the psycho-traumatism in the Penal code.

PP-012

Real child abuse or premeditated murder: a case report

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The authors refer you the tragic case of an infant with Down syndrome, aged 20 months, admitted to the ICU for febrile coma, who died after a week of hospitalization.

To the presence of multiple signs of violence, the prosecutor ordered an autopsy.

The mother told us that the father has never accepted this handicap and she suspected that he beat his song during her absence (she was being treated for breast cancer).

Autopsy revealed multiple old and recent fractures of limbs and skull with many hemorrhages brain.

The statements of the mother contrasted with those of the father who told cops that the child often banged his head against the bars of his bed!.

The results of the autopsy and the forensic discussion put us at an impasse that we will describe.

PP-013

Determination of Sariyer Family Health Centers' Health Professionals' Awareness Levels about Child Abuse and Neglect in Istanbul

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Background: One of the prevention strategies of child abuse and neglect titled as primary prevention is defined as any intervention that prevents child abuse before it occurs. So, it is thought that the most effective outcomes are obtained about protection and prevention of child abuse and neglect with this method. Primary prevention involves the programmes like giving health care services, identification and treatment of psychological problems, alcohol and drug abuse, family planning, detection of risky groups, educating parents about child behavior, discipline, safety and development, encouraging positive parenting, promotion of social institutions to support families such as nurseries and kindergartens. In this study, it is aimed to determine the awareness levels of health personals, who works in primary health care services and to confirm the effect of their awareness to primary prevention.
Method: For this study, ethics permission document and corporation permission from Istanbul Provincial Directorate of Health were taken. It was interviewed with health personals, who work in 15 Family Health Centers in Sariyer, county of Istanbul. They were asked to fill the questionnaires with the principles of voluntary participation. Data were statistically analyzed using SPSS programme (version 14.0).
Results: In this study, questionnaires supported by 64 people were evaluated. 20 males and 44 females, having the mean age 38.3± 8.9 years were studied. 58 (90.6 %) participants stated that child abuse and neglect is a medical problem in Turkey. 26 (43.4 %) participants remarked that they thought the frequency of this problem is more than 50 % in Turkey. 22 (34.4 %) people said that they received an education about this subject and 8 (12.7 %) participants signed that diagnosed the abuse. Only 5 (7.8 %) participants defined a prevention team for child abuse and neglect in their family health centers. 54 (84.4 %) participants indicated that they went to house calls and half of the participants said that the house calls were beneficial for determination of child abuse and neglect.
Conclusion: For success on primary prevention about child abuse and neglect, it must be handled by all areas about children. One of these areas is health services. House calls, which are one of the primary health care, provide prevention. Because of this, increasing of the awareness of all staffs in primary health providers in child abuse and neglect, giving more importance to house calls - keeping in mind and evaluating the child abuse and neglect in house calls-must be developed a primary prevention strategy.

PP-014

Review of 89 Autopsies of Child Deaths From Violence and Neglect in Suez Canal Area, Egypt

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Background: Child homicide is a significant cause of child mortality through inflicted abusive injuries and neglect in several countries. The extent of child abuse in Arab countries is not well identified. In Egypt there is no true data about the incidence of fatal child deaths from violence and neglect. All available data are related to natural death and death from deferent types of diseases. The study aims to investigate child deaths associated with violence and neglect.
Methods: Cases of suspected child deaths from 2000 to 2007 in Suez Canal area were retrospectively reviewed. Cases were collected from the data base of the Forensic Institution of Port-said. A medico-legal autopsy had been carried out for all cases. Suspicious child deaths under 18 years old or equal were reviewed. Variables assessed were age, gender, cause of death and perpetrators of the crime.
Results: Of the 89 cases, 56 were males and 33 were females. Results revealed that child death was 41.6 % in newborns less than one month, 29.2 % in age group between 15 and 18 years and 5.6 % in age group between 10 and 14 years old. The majority of perpetrators were unknown (44.95 %), followed by the victim's colleagues and neighbors (22.47 %). Neglect with no outward signs represented the majority of child deaths (41.57 %). Blunt trauma in abusive manner during street arguments was the second cause of homicidal deaths (19.1 %). The highest rate of child deaths was in newborn and early youth.
Conclusion: While the exact number of child deaths from violence and neglect is uncertain and unknown, child fatalities remain a serious problem in Egypt. There is need for further examination of child fatality profiles associated with abuse and neglect in this age group and increase community outreach efforts to prevent fatal child abuse in Egypt.

PP-015

Does late and non - intensive intervention in children with autism spectrum disorders, considered medical negligence: an overview on child neglect

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Introduction: Child abuse and neglect are often considered in broad categories that include physical abuse, sexual abuse, emotional abuse and neglect. Neglect is the most common, accounting for approximately half of the reports made to child welfare agencies. Child neglect is defined by omissions that prevent a child's basic needs from being met. Autism spectrum disorders include people with autistic disorder, Asperger syndrome, and Pervasive Developmental disorder-Not Otherwise specified.

Autistic spectrum disorders, presents at 2–4 years with impaired social interaction, speech and language disorder and imposition of routines with ritualistic and repetitive behavior. And is usually managed by behavior modification using applied behavioral analysis. Recommendations by the American Academy of Pediatrics that all children be screened for autism at 18 months of age oblige the development of interventions that are appropriate for toddlers with ASD. According to the evidence based medicine, ABA could integrate 49 % of children with ASD into the mainstream primary school.
Conclusion: it is beyond debate that the appropriate treatment is ABA or early intensive behavioral intervention. The concept of early and intensive intervention should be highlighted and notified to child's parents, aiming at giving children with ASD the chance they deserve to be integrated into the mainstream in primary school.

PP-016

Sexual Abuse Identified After Suicide; Case Report

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Child abuse is the bad treatment of a child under the age of 18 by a parent, caretaker, someone living in their home or someone who works with or around children. Abuse of a child is anything that causes injury or puts the child in danger of physical injury. Child abuse can be physical, sexual or emotional.

Sexual abuse reported as a largest part of suicide attempt causes among the childhood. The incidence of suicide between 1950–1993

among the causes of death for children under 15 years of age as increased 4-fold and suicides were 6th of causes of death between the ages of 5–14, in 1994.

The case; In 14 year-old girl's body external examination, we saw that the rigidity of the death body was continuing, dead spots were starting in the regions not compressed, as purple spots. Teleprinter was starting from neck's midline, rising characterized to back and a parchmented area that was 10 cm on right side of the midline and width of 1.5 cm at the thickest region, the outer side of the left knee were 3x2 cm scar tissue. In the examination of the hymen we saw that the hymen was 2 cm wide and notched structure, and a partial tear at the level of 7 o'clock. Ecchymosis and bleeding was not observed around the anus and hymen. In the internal examination we found a fetus in the uterus as the product of pregnancy and the fetus was 2.5 cm sized. As a result of toxicological analyzes, there was no substance in the blood. Fetus in the uterus was detected 6–8 gestational weeks, death was consisted as a result of mechanical asphyxia due to hanging, the only male DNA profile type was detected from pregnancy material.

14-year-old girl's suicide and pregnant detected after the determination of the autopsy will be examined in the light of literature regarding for child abuse and pregnancy.

PP-017

An Unusual Face of Sibling Jealousy; Intersibling Violence

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Background: Burns, a common cause of pediatric injuries, are responsible for severe functional, social and psychological damage. Most burn-related injuries in childhood are encountered in home environment and originally can be accidental or due to child abuse or neglect. Caretakers and parents are generally responsible for child abuse related burns, while rarely siblings or peers might cause burn injuries on minors. Here we present a case of girl burned by her elder brother, in order to draw attention to the morbidity and mortality caused by sibling rivalry, jealousy and inter-sibling aggression.
Case history: An 11 months-old girl allegedly burned by her 4 years-old elder brother was admitted to burn unit of our hospital. Second and third degree burn injuries covering face, scalp, trunk and bilateral upper extremities, a total of 70 % of total body surface area, were detected. Bilateral upper-extremity amputation through or above the wrist was performed because of necrosis due to extensive burns. In following 2.5 years-period, she was underwent a series of skin transplantation operations, which are still going on, in Plastic and Reconstructive Surgery Department. Interviewing with the family members revealed that the elder brother was jealous of his sister since her birth. Elder brother was said to be frequently obsessively mention about burning his sister. At incident day, when mother left home for a short time period; he enflamed his sister's blanket while she was sleeping in the cradle. Elder brother stated that he was jealous of his sister and had burned her, in the forensic psychiatric examination.
Conclusion: Inter-sibling aggression, sibling rivalry and jealousy, which might cause high morbidity and mortality, have been extensively studied in the literature. However, to our best knowledge, this is the first ever case of intersibling violence involving such extensive burn injuries caused by a four year-old elder brother due to lack of parental supervision. Intensified parental supervision, and education and rehabilitation of siblings will play an important role in tackling such cases.

PP-018

Prevalence And Correlations Of School Violence Among Adolescents In Tokat-Turkey

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Background: The aims of this cross-sectional study were to examine the prevalence of school violence and of physical and sexual abuse with an internationally accepted child abuse screening tool in schools. We also sought to determine the sociodemographic characteristics (relation between school violence and abuse with students' sex, age (grade), parental education, family income, parental profession or job) of victimized adolescents in Turkey.
Methods: The study is based on a sample of 5032 students in grade 6–8 in all schools of Tokat city in Turkey. The instrument used in the study was a Turkish translation of the International Child Abuse Screening Tool-children's version (ICAST-C) developed by the International Society for the Prevention of Child Abuse and Neglect (ISPCAN). In addition, the questionnaire collected data on the sociodemographic characteristics of the students and their family structure.
Results: Students were subjected to physical (57.0 %), psychological (59.8 %), and sexual (6.4 %) abuse with varying frequencies. A large majority (73.4 %) of students experienced one or more of the types of violence. All types of violent behaviors were more common among male than female students and were experienced significantly more frequently in urban areas than in villages or districts. Emotional violence was most common (63.6 %) in families with a single child, whereas it was relatively lower (55.4 %) among children with>=5 siblings. On the other hand, the incidence of sexual violence was lowest (3.3 %) in families with a single child, whereas it was highest (7.8 %) among children with>=5 siblings. Interestingly, children in families with higher incomes were more likely to experience physical, emotional, and sexual violence, whereas these were rarely encountered in families with lower incomes.
Conclusion: To address violence against students, we must first conduct nationwide studies to provide a more definitive picture of incidence and prevalence rates and to clarify relevant risk and protective factors. Second, to ensure the accuracy of the data, specific guidelines and questionnaires are needed, as was the case in our study. Third, the deleterious consequences of violence must be explained to achieve greater public awareness about victimization in schools. Fourth, the authorities must ensure and reinforce the safety and rights of children by enacting strict laws against violence and abuse.

PP-019

Close abdominal blunt trauma in child abuse: images under the skin

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Background: Abdominal injuries are the second leading cause of mortality in child physical abuse and account for 6 % to 8 % of all physical abuse. Solid organs (liver, pancreas, kidneys, spleen), hollow organs (hypopharynx, esophagus, stomach, duodenum, jejunum, small intestine, large intestine), blood vessels, lymphatics, and nerves may be

affected. Reported case fatalities are between 40 % and 50 %. Those injuries may be detected on abdominal computed tomography (CT) scans if suspicion of their existence prompts investigation.

Method: We report the case of a child fatality due to inflicted brain injury and abdominal blunt trauma.

Results: The child was brought to the ER unconscious. At initial assessment, she was in cardiac arrest, asystolic, mydriatic. After resuscitation procedures, the cardiac activity reappeared, but the neurological picture did not change. (GCS=3). The child underwent total body CT which showed: subdural hemorrhage with cerebral oedema, pneumoperitoneum. Cerebral injury was referred to shaken baby syndrome and did not require surgical intervention, while abdominal clinical picture needed a surgical look. The laparotomy showed jejunum burst injuries and bruising. Neurological picture continued to be critical and after 2 days brain death was declared. The caregiver denied having shaken the baby and admitted to have hit her, slapping her twice on the abdomen. The autopsy confirmed the Shaken Baby Syndrome diagnosis; the abdominal cavity presented foci of diffuse contusions of jejunum and a peculiar pattern lesion, with three parallel linear bruises 2 cm long, referred subsequently to rib mark. The cutaneous exam of the abdomen revealed no or minimal signs and no pattern bruising similar to the one observed on jejunum.

Conclusions: The burst injuries of jejunum in children are very rare and this finding is observed in road traffic accidents or in child abuse. In our case the burst injury was determined by a violent blunt trauma. The external signs were too few to suspect the severe injuries observed “under the skin”. In abdominal injury, the force applied to the abdominal wall is typically dissipated so that the skin is minimally involved while the underlying solid organ absorbs the force and ruptures. In case of child abuse suspect, the visceral injuries should always be considered and excluded due to their high rate of existing in fatal events.

PP-020

Interviewing child sexual abuse victims: Police officers’ experiences about the phenomena

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Background: Alleged child sexual abuse cases are highly sensitive and complicated phenomena, since the testimony of the child is often the only evidence at hand and the quality of child’s testimony leads to prosecution process. Police officers are one of the main figures among professionals working in legal context since they are integral part of the investigation team about the allegations. The aim of the present study is to determine some of the characteristics of police officers, who interview child victims as well as some of the characteristics of alleged child sexual abuse cases and investigative interviewing process in Istanbul. In addition, police officers’ beliefs about the credibility of children and their self-evaluated competence as an interviewer are examined.

Method: The participants were 51 police officers, working with children in various different regions of Istanbul. The survey was conducted during the seminar which is a part of a psychosocial support project for sexual abuse victims organized by Istanbul Special Provincial Administration. The survey was approved by the General Directorate of Security and the participation rests on a voluntary bases. The data was analyzed in SPSS 20.0 program.

Results: Among 51 participants, 46 of them are males and 5 of them are females. The mean age of participants is 30.4. Mean of working period in Security Department is 6.9 years, while mean of working period as police officers in Child Department is 2.8 years. Forty-three percent of the participants involved in interview of child victims more than 20 times. Thirty-nine percent of them mentioned each interview, takes approximately 30–60 minutes. Sixty-one percent of them mentioned that it takes 12 to 24 hours to deliver the file to the prosecutor's office. Most of them (72.5 %) stated that they interview the victim more than once. It is found that the year of working as child police officer is positively correlated with believing in child victims’ credibility and self-evaluated investigation competence. However, year of working as child police officer is not related with self-evaluated communication skills with children.

Conclusion: One of the most striking finding of the study is the difference between the length of interview process of the child victim and the length of the prosecutors’ office delivery process. Another point is that, the working period in Child Department did not facilitate the self-evaluated communication skills. It should be concluded that there is a need for communication skills support programs for police officers.

PP-021

Stepsibling Incest Resulting In Pregnancy And Delivery: A Case Report

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Introduction: Although sibling incest is thought as the most common form of incest abuse and is predicted to occur almost 5 times more than father/stepfather incest, literature is inadequate regarding this subject (1,2,9,10). Our knowledge is restricted to father/stepfather and daughter/stepdaughter incest (11). Due to limited empirical research, sibling sexual abuse definition suffered certain inconsistencies: “sexual interaction beyond age appropriate exploration” (6), “sexual behavior between siblings that is not age appropriate, not transitory, and not motivated by developmentally appropriate curiosity” (7), or “when the older sibling is 5 or more years senior to the younger sibling or when force is used no matter what the age difference” (3). Some authors mentioned sibling incest to be less harmful than father/stepfather incest while others claimed that ≥5 years of age difference between siblings causes more harm (1,4,8). Sibling incest was also noted by some authors to be as harmful as father/stepfather incest (5). No information on stepsibling incest was found.

Case: Girl (8 years 6 months old) started living with her mother, stepfather and stepbrother (9 years 7 months old) in a 2 bedroom flat and was sharing her bedroom with her stepbrother. After few months, explorative sexual contact with her stepbrother took place and continued for a course of 2 years beyond her mother and stepfather knowledge. When she reached 11 years 5 months of age, her stepbrother assaulted her and sexual penetration took place to later continue his abuse repeatedly by threatening her until she got pregnant with 7 months when her mother had knowledge of the abuse. Delivery took place when she was 13 years 5 months of age and her stepbrother was proved to be the father by DNA analysis. She was assessed thoroughly 3 days after delivery by a university psychiatric council and diagnosed with Major Depression and Posttraumatic Stress Disorder according to DSM-IV criteria. Another evaluation was made at our Council of Forensic Medicine 3 years 6 months after delivery and she was diagnosed with Posttraumatic Stress Disorder, Dysthymia and Borderline mental capacity according to DSM-IV criteria.

Conclusion: Sibling incest, whether biological or non-biological, is an insidious problem that should be addressed thoroughly as major consequences might emerge. Age difference should not be considered a main factor in implying the impact of sibling incestuous relationships and age appropriate sexual interaction should carefully be monitored.

PP-022

Infant neglect – a forensic and legal emergency

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Aim: to highlight the urgency of the forensic examination and of the legal procedures in case of intentional trauma inflicted upon an infant
Materials-methods: casuistic analysis of the forensic examinations on the basis of the gravity of inflicted lesions criteria at the request of the police.
Results and discussions: of the 173 forensic examinations requested by the police for minors, 12 were cases of young children between 0 and 5 years old (on a period of 3 years). The trauma was recent in 78 % of the cases and old or of different aging in 22 % of the cases. We have identified excoriations, ecchymosis, erosions, hematoma and fractures, thus the gravity of the lesions varies from minor to major lesions which required hospitalization and emergency treatment. A special case was of a 6 weeks old infant, admitted in the emergency room with the following diagnostic: acute cranio-cerebral traumatism, open fracture of the right humerus, thoracic traumatism, abdominal traumatism, suspect of human aggression, Silverman syndrome, long oblique punctiform open fracture 1/3 distal diaphysis right humerus, massive hematoma right arm, abdominal concussion, multiple ecchymosis (face, torso, abdomen), ocular concussion left eye. Legal inquiry was focused on the method of producing the trauma (direct injury or falling), the objects which could produce the fracture and the concussions, how many days of medical treatment were required, if the life of the minor was endangered. By corroborating the clinical, investigative and forensic data it has been noted that the lesions require 50 days of medical treatment and that they did not endanger the life of the victim. However, we are of the opinion that, in relation to the age and vulnerability of the victims, the legislation should further protect this category by applying more severe punishment.
Conclusions: We have established that the trauma inflicted upon the minors were of varied gravity and age and produced repeatedly. The aggressed minors represent medical, forensic and implicitly legal emergencies. These cases require complex documentations and investigations with careful conservation of the evidence.

PP-023

Child's Death from Physical Abuse: A Case Report

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Medical records; medical history was taken from father. 1 year, 8 months girl, father brought her to hospital because of sudden developed cyanosis and pulmonary depression that happens while she was eating. İn the hospital she was entubated because of pulmonary arrest and sent to another hospital with an ICU.

Medical background; 1.5 months ago her leg was broken while he was playing with her brother/sister

Physical examination; physical progress is 10–25 percentile, she was not conscious, her general situation was bad, she was hypothermic and pale, there were a lot of differently aged ecchymoses on her face, neck, arms and trunk, a combustion scar on her left hand, deformity due to broke on her left leg, on cranial CT, multiple subarchnoidal hemorrhage areas, on X-Rays on the left fibula diaphyses broken section that is started to heal and there were no special finding at gynaecologic examination. On the 12th day of treatment brain death occurs and on the 13th day she died. Thinking of the findings are concordant to child abuse, the situation was denounced to the government and autopsy was requested

At the autopsy; beside the physical examination findings, we found hemorrhagic areas under the scalp, suture disintegration due to intracranial pressure, generalize subarachnoidal hemorrhage, subdural hemorrhage with neomembrane contusion, hemorrhage in pons, left optic nerve fiber and retina, partially healed broken area and callus formation on left fibula and tibia.

In conclusion; the death was reported occurred of intracerebral hemorrhage and complications due to blunt head trauma. consideration of the autopsy findings and medical records the case is compatible to child abuse. This case includes typical, clinically diagnosed and confirmed by an autopsy, findings of child abuse, and worth to be presented to emphasize the correlation of clinical and forensic approach

PP-024

Complexity in a case of child sexual abuse: Girl to girl sexual abuse with an atypical foreign object (mascara)

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Background: Child sexual abuse is defined as a form of child abuse in which an adult or older adolescent engages in sexual activity with a minor or exploits a minor for the purpose of sexual gratification. Majority of the victims is female; the act is mostly repetitive, affects all parts of the society and often kept secret by the victim. In this case, we report a complex case of child sexual abuse, where three girls, staying at a dormitory, with similar ages and having a history of previous sexual, physical and emotional abuse were involved in an atypical sexual abuse.
Case: Three adolescent girls; one being the victim (17 years old) and the other two being the offenders (18 year-old), staying at a dormitory of the Social Services and Child Protection Service, was seen at the outpatient clinic to assess their mental health in a case of an atypical foreign object insertion (mascara) into the vagina by the offenders. 4 other girls staying at the same dormitory were also involved. Anamnesis revealed a prior sexual abuse in all 7 girls. After clinical interview, post-traumatic stress disorder and dissociative experiences scales were applied to all actors. Mental capacity was determined by clinical evaluation and psychometric tests. The victim was identified to have mild mental

retardation and post-traumatic stress disorder, whereas the offender had anti-social personality, normal mental capacity and a post-traumatic stress disorder due to the previous history of physical and sexual abuse.

Conclusion: The children with a prior history of sexual abuse have later the tendency to become victims or offenders. This case shows that girls may also exert antisocial behaviours that develop in parallel to previous physical and sexual abuse which is mostly observed in boys. Dormitories, by influencing interactions between previous victims and offenders, may also be contributing to the occurrence of sexual abuses. Close follow-up of the cases staying at dormitories with a prior history of physical and sexual abuse seems to be very important in prevention of cases such as the one presented in this report.

PP-025

Sexually abused victims with intellectual disability

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Children with any kinds of disability are more than twice as likely to be physically and almost twice as likely to be sexually abused as children without disabilities. We prefer to use of terminology instead of mental retardation as still label by many in the public. The claims of the victims with intellectual disabilities are unlikely to be reported to authorities and also they are viewed defectively in terms of cognitive abilities but positively in terms of trustworthiness and honesty.

In this study we examined the characteristics of the sexually abused five victims with intellectual disabilities that we assessed at the Child Protection Center of Marmara University Pendik Hospital, Istanbul. They all underwent legal interview, child psychiatric consultation and WISC-R testing.

The victims are all girls between 13–17 years old. Three of them are borderline limited intellectual disability, one of them is mildly limited intellectual disability and the other is moderately limited one.

The forms of abuse are penetration anal and/or vaginal. All of them were abused more than once and by more than one abuser. The type of sexual abuse is more severe in cases with intellectual disability. This vulnerable group of adolescents deserves a special interest of health workers.

PP-026

Multidisciplinary child protection: Making decision about child abuse

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Background: In recent years, awareness of child abuse and neglect has been increased in Turkey. The work with abused children involves several courses of action between institutions, namely as to the starting procedures to follow reporting of suspicion, diagnosis and preservation of evidence for penal purposes, as well as to the protection of the victim(s), all of which still lack a clear procedure. Several institutes often take part simultaneously in these early procedures and it is crucial that their own personal intervention be articulated with one another's. The mission of Children's protection Unit of Department of Forensic Medicine, Cerrahpasa Medical School is to reduce the emotional trauma to child abuse victims by facilitating a multidisciplinary team approach, which supports the prevention of child abuse through community education and promotes the effective prosecution of those who perpetrate crimes against children. In this study, it is aimed to share experience of Cerrahpasa Medical School.

Method: It is observed that the explanation of the High Court and the Prosecutors and Judges High Council in Turkey since 2012 which tells examinations of child abuse and other kind of violence cases can be done in universities which have a mirrored room and multidisciplinary team.

Results: Turkish Criminal Procedure Code, which has been changed, gives a chance to the different perspective of expert and expertise system. That change has brought new hope for the protection and reporting of abused children. The legal authorities' decision reporting that they have been accepting the universities' Department of Forensics medicine as legal expertise institution and also giving priority considers a milestone decision. Because in these institutions including the investigation phase all the legal and medicolegal processes can be settled. After the text, the number of cases admitted to our department has increased surprisingly. This situation is a cornerstone for the beginning of the change for the universities which hasn't found their desired position in the expertise system.

Conclusion: The decision to verify child abuse allegations requires simultaneous consideration of a specified level of evidence of abuse, the severity of harm a child experienced, and in some jurisdictions, the risk of harm to a child. The decision making process is complex and the resultant recommendations multidisciplinary protection team make about services or court involvement may have significant implications for the immediate and long term functioning and safety of a family.

CLINICAL FORENSIC MEDICINE

PP-027

Work-related disability among Egyptian workers

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Background: Work-related injuries involve a great number of workers, especially young people at productive age all over the world. They are highly disabling, leading to major social and economic consequences. Thorough knowledge of the trends of workplace disabilities is essential for the development of strategies to better assessment and fair judgment.

The aim of this work was to study cases of disability in workplaces presented to the forensic medicine authority in Cairo, Ministry of Justice during 2 years (2008 and 2009) and to evaluate the disability rating percentage.

Methods: This is a retrospective study based on the data obtained from reports written by Medico Legal Experts (MLE) for workplace

disability victims who were presented to the Medico-legal Administration Department of Cairo, Ministry of Justice during the years; 2008 and 2009. These data were then submitted to statistical analysis.

Results: There were a total of 142 cases of workplace disabilities in different establishments. Most cases lie between 18 and 34 years of age. Limitation of joint movements was the most frequent type of injury (49.3 %), followed by fractures and nerve, tendon or muscle injuries (26.8 % for each). Caught by a machine was the most frequent event (40 %), followed by falls/slips (20 %). Hands were the most affected part of the body (28.2 %). After assessment by MLE, the highest number of workplace disabilities fell in the 0 to 20 % range, and presented in 86 victims (60.6 %). Disabilities due to falls/slips and being hit by an object scored the highest rating percentages. Of all current study cases, general establishments recorded 89.2 % where private ones were only 10.8 %.

Conclusion: In Egypt, the accurate and reliable recording system for cases of work-injuries is still lacking. There is a clear need for better and more reliable data on the nature, causes and extent of injuries.

PP-028

A case report on writing sample of a paranoid schizophrenia patient who reduced a word to a single letter

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Adli Tıp Kurumu

In this case, the court file, that was interviewed in the Civil Court of First Instance and sent to Physics Specialization Department Document Review Branch of Forensic Medicine Institution with the aim of signature study, has been investigated. In the court file, there is committee report that states the paranoid schizophrenia, arranged by the Commune State Hospital regarding the complainant. The complainant knows how to write a letter of application to the court as of form, considering the establishment that the complainant was retired. He typewrites the letters of applications. In 2010, throughout the year he submitted 16 petitions to the court of the case, and the petitions were initialized by the Chief Judge and put to the court file. In the filed petitions, it was seen that there is a lack of meaning unity between the sentences. It was also seen that, without being based on a specific norm, some word's initial letter was capitalized and made dots on both ends of the word. Moreover, it was seen that the petitions were underlined by yellow, red, blue, purple, pink, orange and green lead pencils. As a conclusion, on the writing samples belonging to our case, racing thoughts mentioned in the previous studies and also that is seen on schizophrenia patients. Together with the absurd patterns of behavior, for the first time we have been encountered with an absurd pattern of reducing the word to a letter and making a dots on the right and especially left side of the word. We think that the ascertained characteristic has a diagnostic value for the schizophrenia illness.

PP-029

Epidemiological Study of post traumatic orofacial damage based on Portuguese Civil, Criminal and Labor Laws

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Purpose: The purpose of this study was to identify the type of orofacial injuries found in reports of Clinical Forensic of South Delegation from Medico Legal Institute, in Portugal, between 2005 and 2009, based on Civil, Criminal and Labor Law.

The final objectives were, determine: (1) the most frequent types of trauma, (2) the orofacial areas most affected, (3) the prevalence of orofacial lesions/sequelae, (4) the average number of disabilities evaluated or period of illness from those, based on Civil, Criminal and Labor Law.

Materials-methods: This retrospective study was conducted entirely in Clinical Forensic of South Delegation from INML. The target population consisted of the victims of preliminary, interlayer and final reports of the clinical forensic procedures carried out between 2005 and 2009. The population sample comprised a total of 1422 victims of both sexes, without restriction of age, of whom 232 had suffered some type of orofacial injury.

All the variables were defined according to the authors to discriminated the lesions/sequelae of orofacial area.

Results and conclusions: The most common trauma was the facial (54 %), followed by oro-facial (15 %). The most frequent injuries/sequelae were: Scars (27.91 %), excoriations (15.05 %) and ecchymosis (8.25 %).

PP-030

Prevalence of gang rapes in Mthatha area of South Africa

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Background: Gang rape is one of the most conspicuous forms of violence and has reached epidemic proportions in South Africa. It occurs in all spheres of society and all women are potential victims.

Objectives: To determine the prevalence of gang rapes in the Transkei region of South Africa.

Methods: This one-year retrospective study focused on all cases of gang rape reported by complainants over 16 years at Sinawe Rape Crisis Center in Umtata General Hospital during January 2008 to December 2008. Recorded details included the age, addresses, number of perpetrators, relation with perpetrator and physical violence.

Result: There were 379 cases of rape recorded. Of this, 63 (16.6 %) were gang rapes. Majority 181 (47.8 %) were between the age of 16 and 20 years. The highest number 30 (47.6 %) were in the area of Mthatha followed by Tsolo 9 (14.3 %), Engocobo 9 (14.3 %), and Libode 7 (11.1 %). In majority 47 (74.6 %) of victims had two perpetrators, 10(15.8 %) had three perpetrators, and 3 (4.8 %) had four perpetrators. Most of the perpetrators 44 (69.8 %) were not know to the victims. Most of the gang rapes were part of robbery and take place at victim home.

Conclusion: There is a high prevalence of gang rape in Mthatha area of South Africa.

PP-031

A comparative study of HIV sero-prevalence between nulliparous and parous women of the reproductive age who attended the Sinawe Centre, Mthatha, South Africa in 2005

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The aim of this study is to compare the sero-prevalence of HIV between nulliparous and parous women who attended the Sinawe Center following sexual abuse. A record review of victims of sexual abuse who presented to the center at Mthatha (Umtata) Hospital.

Six hundred and eighty five females attended the centre between 1st January and 31st December 2005. Of this, 268 had testing for HIV done, and 72 (26.8 %) were found to be positive. The highest number of positives, 30 (11.2 %) were between 21 and 25 years. There were 160 (59.7 %) nulliparous women with 30 (11.1 %) being HIV positive, and 108 (40.3 %) parous women with 42(15.7 %) positive. Among the nulliparae the highest positivity, 17 (6.3 %) was in the 16 to 20 year age group while in the parous women it was in the 21–25 year 26 (9.7 %) age group. There is a higher prevalence of HIV among parous women than in nulliparae who attended the Sinawe Centre.

PP-032

A Drowning Case Including Mother And Her Own Children's Homicide-Suicide

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Introduction: Homicide-suicide, is a relatively common in forensic medicine literature. Homicide-suicide is more common among family members. The Murderers are men, while victims are usually women and firearm is most commonly used instrument. There are rare cases of homicide-suicide by drowning for both murderer and victim or victims.
Aim: In this study, the mother who committed suicide by throwing herself into the water after murdering her two children by also throwing them into water is aimed to present.
The case/cases: A 25 years old mother who had been married for six years, killed her two children (one of them is 5-years-old and the other is six months old) by throwing them into the water, and she also committed suicide by jumping into the water. The event took place by the river that pass through the park in the city. Her husband couldn't receive any news from his wife since the morning of the event, and stated that he found a suicide letter in his wife's bag. Eyewitnesses told that a man, a woman and two children chatted for a long time, then man leaved the park, women and children wandered around the river for a while, then the corpse of a woman and two children were seen in the evening of the day of the event. Postmortem toxicological and histopathologic examination showed that the cause of deaths was mechanical asphyxia due to suffocation in all three cases. According to the investigation file, the family migrated from the southeast region of Turkey and they had low socioeconomic levels, and it is determined that the husband was in prison for a period of time in the past.
Conclusion: The case of the mother who committed suicide by throwing herself into the water after murdering her two children by throwing them into water is a rare condition. The case is interesting for the manner of deaths and the reasons leading the mother to suicide and murder her children in terms of discussion.

PP-033

Legal Cases' Evaluations in Terms of Public Health

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Purpose: Injury is identified as physical damage in human body due to a suddenly rising energy level. Our purpose in this study is to determine injury types and the causes of injury and to evaluate the injury's results in term of public health.
Method: Mersin University Medical Faculty Forensic Medicine Department's legal reports of year 2010 were evaluated for this descriptive study. Besides cases' demographic features such as age, sexuality, home cities, some other features were obtained such as causes of injury, injury style, date and place of injury, injured body part, the hospitalization need due to injury, clinics where injured patients were hospitalized (if any), hospitalization duration. Data are presented as mean±standard deviation and in percentages.
Results: There are 1042 reported legal injury cases in 2010. 67.7 % of them (n=705) are male, 32.3 % are female, average age is 26.6±16.8. Injuries occurred generally due to traffic accidents (%28.7), sharp objects (%15.3), assault (%14.5) and poisoning (%13.4). Injuries occurred mostly in streets (%30.9), and in or around house (%24.1). The most injured body parts were face (%30.5), arm (%16.2), head (%15.9) and leg (%15.3). 61.3 % of patients who applied to hospital (n=639) were treated in emergency clinics and there were no need to hospitalize. When we evaluate injuries in terms of sexuality; the first place belongs to traffic accidents (both for males and females), second place belongs to poison for females and sharp objects for males. When we evaluate the reasons of injuries; the ranking is accidents, interpersonal violence and suicides respectively for women while the same ranking for accident, interpersonal violence and industrial accidents respectively for men. The evaluation in terms of age groups; accident is first ranked reason for every age group. Suicide was determined from the 10th age and seen most frequently between 15-19th years for females. Suicide was determined in females 5–8 times more than males in all of age groups.
Conclusion: Accidents and interpersonal violence were first two reasons of injury of males and females. The first protection method for injuries in traffic accidents was prevention from accidents. If it is not possible to prevent, injury's prevention is other precaution. Public trainings must be organized in these topics. Besides, families must receive consultancy about girls' tendency to self damages in especially adolescent era.

PP-034

Evaluation of Sciatic Nerve Injury Cases at the Department of Forensic Medicine Between 2002 to 2011

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Introduction: Sciatic nerve is the largest nerve in the body is composed of the peroneal and tibial branches. Sciatic nerve injuries may occur as a result of traumatic events, and on the other hand may occur in result of medical interventions during the injections.

Aim and method: 16. 827 cases were analyzed between 2002–2011 retrospectively. Sciatic nerve injury in total 21 cases were evaluated. Cases were examined for demographic data such as gender, age, number of cases, event type, EMG and examination findings.
Findings and result: Of the cases, 19 (95 %) were male and 2 (5 %) were female. 2 cases (9.5 %) were sent by Patrol, 18 cases (85.7 %) were sent by Chief Public Prosecutor, and 1 cases (4.8 %) were sent by the Court. In 1 case (4.8 %) was not recorded age, in 1 case (4.8 %) was in 0–10 age group, in 3 cases (14.8 %) were in 11–20 age group, in 6 cases (28.6 %) were in 21–30 age group, in 4 cases(19 %) were in 31–40 age group, in 4 cases (19 %) were in 51–60 age group, in 2 cases (9.5 %) were in 70+age groups were determined. In 2 cases (9.5 %) were not recorded event type, in 10 cases (47.6 %) were determined injection, in 5 cases (23.8 %) were determined stab wound, and in 4 cases (19 %) were determined gunshot wounds. In EMG reports, 10 cases (47.6 %) were identified tibial-peroneal nerve injury, 4 cases (19 %) were identified sciatic nerve injury, 5 cases (23.8 %) were identified peroneal nerve injury and 2 cases (9.5 %) were normal EMG recorded. During the examination in 7 cases (33.3 %) were detected foot drop, in 8 cases (38.1 %) were detected dorsiflexion or plantar flexion weakness, in 2 cases (9.5 %) were detected normal findings on examination, and in 4 patients (19 %) were not mentioned the findings of the inspection.
Discussion: Intramuscular injections are often performed by medical staff of medical interventions. In our study, more than half of the cases with sciatic nerve injury were observed the emergence of an intramuscular injection, raises the question whether these injuries is defective behavior of medical staff. To minimize and eliminate the intramuscular injection of sciatic nerve damage due to defective behavior of medical staff, intramuscular injection to be made the authorized persons, in appropriate circumstances and accurate localization is a basic requirement.

PP-035

Sexual Assault Cases in Department of Forensic Medicine in Erzurum

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Introduction: Sexual assault is defined as any unwanted sexual act in which a person is threatened, coerced, or forced to engage against their will, or any sexual touching (rape, inappropriate touching, forced kissing, child sexual abuse, or the torture of the victim in a sexual manner) of a person who has not consented.
Aim and method: In the present research we aimed to define sexual assault cases according to determined parameters retrospectively at Department of Forensic Medicine of Ataturk University, at year of 2011.
Findings and result: One hundred and seventeen cases of sexual assault were evaluated. Of the cases 37 (31.6 %) were male and 80 (68.4 %) were female. The age range of cases were from 4 to 60 years. 75 cases (64.1 %) were in 11–20 age group. Of the cases 106 (90.6 %) were healthy with no mental problems and 11 (9.4 %) were mental retardation. The offender was known by the victim in 96 (82.1 %) cases. 40 (34.2 %) occurred in the cases or offender's home. There were not examination in 74 cases (63.2 %). The incidence of positive sign of anal penetration was 7 cases (6 %). In 14 cases (12 %) were suffered vaginal intercourse and in 22 cases (18.8 %) were not positive sign of anal or vaginal penetration. Based on psychiatric examinations, in 59 cases (50.4 %) were normal psychiatric signs, in 17 cases (14.5 %) were diagnosed post traumatic stress disorder (PTSD) and the other cases were diagnosed other psychiatric illness.
Discussion: In our study, the majority of cases of sexual assault were earlier adolescent girls between the ages of 11–20 as well as many studies made before and the offenders were family relatives, neighbors and also previously recognized by the cases. Cases of exposed to sexual or physical attack are exist psychiatric signs such as depression, PTSD, anxiety and sexual dysfunction. In this study, nearly half of the cases of were diagnosed psychiatric disorders such as depression, PTSD and anxiety. Sexual assault is one of the most severe trauma due to the negative effects of both physical and mental signs. A significant portion of the cases are not reported to judicial authorities. We suggest that to prevent sexual assault, individuals be made aware of this issue, the events were reported earlier and support for the cases to the negative effects of sexual assault such as psychological and physical trauma

PP-036

The role of the Forensic Pathologist: from the lifting body to the forensic report writing

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The role of the pathologist is usually subordinate to the judicial process which is developed in three steps:
1. The research and establishment of the crime or offense which requires frequent intervention by the forensic pathologist in the case of attempt on the life, injury, murder, poisoning.
Forensic operations are intended to determine the nature of the fact and its judicial criminal cause and include:
The lifting body, autopsy, toxicology, histopathological, and bacteriology.
2. Research of the agent of the offense involves the study of pieces of evidence, trace evidence and that means the implementation of the capacity of police and legal medicine laboratories.
3. The drafting of the forensic report is a summary of the facts leading to conclusions, when the establishment of guilt, it belongs to the magistrate responsibility.

PP-037

A Murderer or Victim? The Importance of Differentiation of Suicidal/Homicidal Sharp Force Injuries: Case report

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The determination of the manner of death in general and the differentiation between homicidal and suicidal sharp force injuries in particular is a major issue in forensic medicine. Actually sharp force is a rare method of suicide constituting only 2–3 % of all suicides in various countries. In a case with multiple, deep, lethal stab wounds, it may be easy to define the mode of death, but in some other cases it may not be so easy. The classical criteria for discriminating self-inflicted fatal sharp force trauma from homicide are generally considered as follows: (1) several injuries are

observed on the possible sites of self-infliction; (2) hesitation marks are present; (3) clothing injuries are present. In spite of these facts, there are many case reports showing unusual features in the literature.

Self-inflicted sharp force trauma may, in some other cases, be a part of a scenario aiming to deceive legal authorities. The perpetrator may injure him in order to show him as the murder of the incident.

A 58 years-old man who is the suspect of murder of his wife was referred to Council of Forensic Medicine for medico-legal evaluation of his wounds claimed to be inflicted by himself in order to accuse the decedent as the perpetrator. Crime scene findings, hospital records, autopsy report of the victim, nature of the wounds of both victim and the suspect were all evaluated and presented.

PP-038

Death in Emergencies: Confrontation Diagnoses Emergency Physician – Forensic Pathologist

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Introduction: The autopsy is an indispensable diagnostic tool to understanding the causes and mechanisms of death like to the improvement of the quality of care. In every case of violent, suspect and sudden death, an autopsy is required.

The purpose of this study is to confront the diagnosis established by the emergency physician and that of the forensic scientist.

Material-method: Retrospective study including all the patients' deaths admitted in emergencies of Ben Arous's regional Hospital between May 2009 and December 2010. For each patient: age, sex, histories, symptomatology before the death, means of transport, pre and intra-hospital resuscitation, the attitude of the family, were collected. For each death, a diagnosis was established by the emergency physician.

Results: 112 deaths are included. The average age of dead patients was of 52.6 years. A sex ratio was 1.7. Patients presented pathological antecedents in 76 cases (66 %). Patients joined emergencies by their own means in 81 cases, by emergency services 26 cases. The pre-hospitable resuscitation was undertaken for 10 patients. The intra-hospital resuscitation was tried for 94 patients.

The attitude of the family was acceptance in 51 cases, a usual crisis of mourning in 44 cases, a verbal aggression in 13 cases and a physical aggression in 1 case.

In 37.5 % case the autopsy was not required in spite of the obligation to sign on the medical certificate of death, the presence of a medico-legal obstacle to the burial. The main reasons are pathological antecedents of the victim, absence of traumatic injury on the body and advanced age.

The diagnostic concordance was perfect in all cases of traumatic deaths. In 15 % of the cases (12 victims), the diagnosis advanced by the emergency physician was different from the conclusions of the autopsy. These cases concerned young subjects without histories, died suddenly or patients with pathologies difficult to diagnose (myocarditis, aneurism of the abdominal aorta).

Conclusion: This study shows that the autopsy diagnosis is of a big contribution for the knowledge of the causes of death in emergencies. A discussion between the forensic scientist and the emergency physician is necessary in case of diagnostic discordance.

PP-039

Sudden intraoperatory death during percutaneous vertebroplasty

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Percutaneous Vertebroplasty (PV) is a minimally invasive surgical procedure performed in the vertebral collapse treatment, following osteoporosis and others diseases (eg. cancer) associated to severe pain.

The procedure includes the following: transpeduncolar introduction performed under endoscopic guided, needle-cannula application within the fractured vertebral bodies and subsequent injection of cement bone, typically consisting of polymethylmethacrylate (PMMA).

This procedure was first described in France in 1987 for the treatment of an aggressive hemangioma of C2 and subsequently spread throughout the world.

Nowadays, we can conclude that there are no reliable data concerning long-term effects and complications due to this procedure, however generally considered as a procedure at minimum risk for major complications.

Moreover, some recent cases reports have highlighted the existence of a minimum risk for cardio-respiratory impairment, sometimes associated to fatal outcomes. This eventuality, from an etiopathogenetic point of view, has been linked to the so-called "Bone Cement Implantation Syndrome", already known and described in the cemented hip prosthesis implantation.

Nonetheless, the pathogenic mechanism of this serious complication, clinically characterized by hypoxia, hypotension, bradycardia, arrhythmia, increase in the pulmonary resistance and cardiac arrest, is not yet sufficiently clarified. The predominant scientific approach pays great importance to pulmonary embolism (adipose, bone marrow, cement, bone spicules) but other studies have suggested also other hypothesis, such as the release of histamine or complement activation, with hypotensive effects, or the vasodilatation induced by endogenous cannabinoids, as well as the direct PMMA toxicity.

In our case, the patient was suffering from multiple vertebral collapse from L1 to L5, thus suggesting a multilevel approach. After the preoperative tests, the patient underwent surgery under local anaesthesia and mild sedation during the cement injection. Nonetheless, since a small intravenous cement diffusion at the level of L3 was produced, the procedure was immediately arrested but the patient presented immediate hypotension and bradycardia followed by irreversible cardiac arrest. At first medico-legal investigation was not ordered, but an autopsy was anyway performed to establish the cause of the death. The autopsy revealed a severe ischemic heart disease, but a later histological examination for medico-legal purpose showed diffuse pulmonary microembolization related to the surgical procedure.

The literature review and the study of the case point out the need for future clinical observations on the risks, even if statistically low, of major complications in percutaneous vertebroplasty, which should require a specific mention in the informed consent.

PP-040

Evaluation of the delay in execution of the penalty of imprisonment because of diseases

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In our country, delay in the execution of the penalty of imprisonment is defined in the article 16 of Law No 5275 on the execution of penalties and security measures. According to the Law of Council of Forensic Medicine, these cases are sent to 3rd Specialization Board of Council of Forensic Medicine by prosecutor's offices and their examinations are organized. According to the article 16 of law No 5275; in case of disease, execution continues at the public hospitals' separated parts for prisoners. However, if the execution risks the convict's health, execution is delayed until the convict gets better. Delay decision is given by the chief public prosecutor's office on report prepared by the health committees of general hospitals and approved by Council of Forensic Medicine or prepared by Council of Forensic Medicine.

In 2011, totally 667 case appealed to 3rd Specialization Board of Council of Forensic Medicine, to benefit by the delay of execution and by our board 14 were evaluated in this context.

We want to present four cases to show the approach of 3rd Specialization Board of Council of Forensic Medicine. First two cases are the examples of that we were of the opinion that delay in the execution can be given. First one is 47 years old male, he has Multiple Myeloma since November 2010, bone marrow examination after chemotherapy treatment is concordant to remission, as post remission treatment autologus stem cell transplantation is being planned. Second one is, 71 years old male, he has chemotherapy resistant epitheloid mesothelioma diagnosis since February 2010, he has supportive treatment, his general situation was bad.

These two are the examples of delay in the execution was not approved. First one is 48 years old male, he has decompensed liver cirrhosis secondary to Hepatitis B since June 2011, he has hypersplenism, oesophagus varicosis, hepatosplenomegaly, in our examination, he has sclerotic icterus, second one is 64 years old male, he has chronic obstructive pulmonary disease, senility, bilateral renal calculi, bilateral sensorineural hearing loss diagnoses,

As a conclusion, if the diagnosis of the convict is a risk for life contingency or prison conditions are not adequate for treatment or according to medical records cases that do not have the chance to get better are evaluated in terms of delay in the execution.

PP-041

Fatal Undiagnosed Pulmonary Hydatid Cyst: A Case Report

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Introduction: Hydatid disease is a parasitosis and is endemic in many sheep-rearing regions in the world especially in the Middle East and the Mediterranean countries. The lungs are the most common sites of infection in children and the liver is the most common site affected in adults. Spontaneous rupture of the hydatid cyst into the peritoneum or pulmonary, which is accompanied by serious morbidity and mortality generally.

Case: A 48-year-old woman was admitted to State Hospital with the complaints of dyspnea. The The pulmonologist was receipted antibiotic and anti-inflammatory tablets and was sent to her to taken her chest graphies. On the same day after she had taken her drugs she was vomiting blood. Then she was taken to the hospital and died in emergency room. Autopsy were done by Director of Forensic Medicine, Erzurum. The post-mortem examination revealed a large cyst (10x5×4 cm) in the right lung and there was no daughter vesicle. The histopathological examination of the cyst and lung tissue samples confirmed the diagnosis of pulmonary hydatid cyst.

Conclusion: Hydatid disease is a serious health problem in endemic areas as well as in Turkey. The diagnosis and appropriate surgical therapy is usually delayed because most of the hydatid cysts remain asymptomatic until it is getting complicated. Treatment of dogs with antihelmintics is the main procedure to control the parasite. In rural areas of Turkey this treatment is not applied routinely. In the rural area, sheep are home-slaughtered routinely. Dogs can access to the infected viscera. Diagnosis of the hydatid cyst is mainly based on ultrasonography and computed tomography. The choice of treatment is still surgical approach in the management of pulmonary hydatid disease. In endemic regions, it is useful to consider hydatid cyst disease for patients with dyspnea admitted to the emergency room. Rupture of the hydatid cyst may be fatal.

PP-042

A case of toxic shock due to clandestine medical abortion

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Background: Unsafe abortion is one of the least documented reproductive health problems and, not coincidentally, it's difficult to document.

Millions women worldwide still have an unsafe termination of pregnancy each year, resulting in estimated 66500 deaths in countries with restrictive abortion laws, largely among the most vulnerable women, such as the poor, the unmarried and the young women.

We encountered a case of septic shock due to misoprostol induction of labor at 9.2 weeks in a 42 year old white woman (gravida 10, para 10). She died 6 days after she ingested 12 tablets of 200 mg of oral misoprostol, illegally prescribed, without prophylactic antibiotics.

Her symptoms included uterine haemorrhage, abdominal cramping, vomiting, and diarrhoea on day 2 when she was hospitalized with anaemia (Hb 10.6 g/dl), pancitopenia (1,92 white cells/mm^3, 69 plaquetes/mm^3), with lack of fever. Revision of uterine cavity and curettage were performed due to minor retained necrotic decidua. After repeated haemostatics and uterotonics she died.

Method: Autopsy and histological examination were performed.

Results: It was proved that the woman died from septic shock. Lung findings were mononuclear cell infiltration, thick alveolar septae, intraalveolar haemorrhage. The other findings were congested pulmonary blood vessels, pulmonary oedema, cytomegaly, fibrin accumulation and formation of eosinophilic membrane.

Conclusion: Administration of mifepristone in combination with misoprostol, a prostaglandin analogue, is currently the most widely used regimen for medical abortion approved by World Health Organization and it is a safe and efficient alternative to the surgical abortion method.

The risk of serious complication is exceptionally low compared with other medical interventions, and very few patients require emergency referral. After medical abortion, prophylactic antibiotics should be administered because of reports of serious infection.

Common practice is that women administer misoprostol themselves at home, handling the treatment and most stages of the termination process themselves.

The importance of this case concerns the question of real public access to information regarding abortion as a clinical procedure and the specific obligations related to the part of health care professionals. Although improvements in technology and changed perspectives on rights had an impact on the abortion

debate, remain crucial the significant disparities and inequities in access even within health systems that provide basic health coverage for all.

In the meantime physicians providers of abortion care play an important role: prevent fatal injury through knowledge of the common clinical toxic shock after medical abortions and advanced postabortion care.

PP-043

Domestic Violence Assault versus non-Domestic Violence Assault: a retrospective study of Criminal Law reports in the Centre of Portugal (2008–2010)

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Domestic violence is contemplated in the Portuguese Criminal Law Code since 2000. According to the Portuguese Association for Victim Support (APAV), in Portugal, during the year of 2010, there were a total of 16972 domestic violence complaints, a number that increased in 2011 to 18470. It represents 31.7 % of all Criminal Law exams underwent in the Centre Branch of the Portuguese National Legal Medicine Institute (INML, I.P.), during a three year time lapse (2008–2010).
This study has the objective to compare the victims, instrument of assault, location of injuries and impairment period resulting from lesions in Domestic Violence Assaults versus non-Domestic Violence Assaults.

Data was analyzed according to age, gender, nature of lesions, the instrument of assault, location of injuries, and period to cure suffered lesions. Levene's test for variance and Welch's t-test were utilized to compare both groups.

During the previously mentioned period a total of 3844 Criminal Law reports were analyzed. 1217 of these corresponded to Domestic Violence Assaults cases, 960 female and 257 male victims, ages varied from 1 to 97, with a mean value of 39 (38.5892±15.02762) years. 942 resulted of blunt trauma. The period to cure suffered lesions had a mean value of 4 (3.7442 ±3.50393) days, resulting in daily work impairment of a mean value of 3 (2.6927±10.72988) days and in usual labor impairment of a mean value of 2 (1.7472±6.76170) days.

2627 of these corresponded to non-Domestic Violence Assault cases, 1035 female and 1565 male victims, ages varied from 1 to 91, with a mean value of 39 (38.5454±17.07986) years. 1983 cases resulted of blunt trauma. The period to cure suffered lesions had a mean value of 5 (4.2667 ±12.07120) days, resulting in daily work impairment of a mean value of 6 (5.7118±29.47528) days and in usual labor impairment of a mean value of 5 (4.3037±24.69471) days. The authors also characterized the instrument of assault and location of injuries in both groups.

Most of the cases comprehend a female victims suffering blunt trauma. Comparing both groups, the authors conclude that the age in both populations is fairly the same and that domestic violence assault normally results in lesions that are faster to cure, originating fewer impairment days for general work and for usual labor, than non-domestic violence assault. The authors consider that domestic violence assaults' physical component is only the tip of the iceberg of a continuous and complex form of violence.

PP-044

Postural Dyslexia: a medico-legal evaluation

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According to Da Cunha (1979), Postural Deficiency Syndrome is a disorder in the central nervous system functioning, characterized by impairment in transmission and integration of information necessary for postural balance. Various symptoms can appear within the same subject, such as, musculoskeletal complaints, as well as perceptual and cognitive deficit symptoms. This Syndrome can occur at any time of life. In children, after the acquisition of upright posture and bipedal walking, impairment of spatial reference, for instance the decrease of referential vision will hinder the balanced development of the body's posture. It is usually during school years that disorders such as dyslexia, hyperactivity, loss of interest, attention deficit disorder will appear. Later in adolescence these symptoms will manifest themselves through musculoskeletal disorders.

The authors were requested by Coimbra's Court related to Family Law matters, to infer if an adolescent was bearer of Postural Deficiency Syndrome, in a child custody dispute. Clinical signs and symptoms of this syndrome were taken in consideration to evaluate if the patient suffered from the disorder in appraisal. Ophthalmologic, psychological and neurologic evaluations of the patient were undertook in idoneous institutions to ensure the validity of results.

The patient presented himself to the Ophthalmologic evaluation wearing prismatic lenses, having a visual acuity of 8/10 bilaterally, in monocular and binocular conditions, he didn't present any facial asymmetry, anomalous posture or gait abnormalities. A new correction was proposed, having a visual acuity of 10/10 in monocular conditions and a visual acuity of 12/10 in binocular conditions, Jaegger 1 for close distance visual acuity. Psychological evaluation concluded that the patient presented an intellectual level within the average patterns, with personality characteristics that can lead him to be a stable person, with a good level of cognitive function and psychosocial adjustment. Neurologic evaluation didn't show any abnormality of the neurologic functions or in the patients gait or posture, thus no neurologic cognitive, mnesic or intellectual deficit was found to justify the possibility of a lexical difficulty.

The authors had to go through a thorough investigation of all the signs and symptoms of Postural Deficiency Syndrome. Other causes for dyslexia were excluded before that.

To rigorously ascertain this Syndrome's broad clinical spectrum, a suitable evaluation by a multidisciplinary team must be performed.

Proprioception, gait and posture abnormalities, as well as dyslexia, major signs that comprise this Syndrome, weren't confirmed in this precise case, therefore overruling the hypothesis of Postural Deficiency Syndrome.

PP-045

Facial Emotion Recognition in Patients with Violent Schizophrenia

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It is well known that patients with schizophrenia have more violent behaviors than general population. Some impairment in facial emotion recognition ability was detected in these patients that lead deficiency in communication, social withdrawn and development of delusions. In this study, the ability of facial emotion recognition in violent patients with schizophrenia was aimed to investigate. Forty one violent patients with schizophrenia and 35 non-violent patients with schizophrenia were included in the study. Sociodemographic inquiry including the characteristics of violent behavior, facial emotion recognition test, positive and negative symptom scale for schizophrenia were performed in both groups. Sociodemographic findings in violent patients with schizophrenia were in accordance with literature findings. There were

no statistically significances among right responses of recognizing the emotions according to facial emotion recognition test. In both groups, the most right recognized facial emotion was happiness and the worst right was recognized facial emotion was fear. However, the dispersions of misattributions to facial emotions were significantly different between groups, although there was no difference according to right responses. Some significance according to symptom severity scores was observed between groups. In addition, there was a weak correlation between the right response to facial emotion and symptom severity in groups. The insignificance among right response to facial emotion recognition between groups supports the proposal that the ability of facial emotion recognition is a trait feature of the disorder. Nevertheless, the new studies indicate the importance of some strategic education programs in facial emotion perception and recognition to gain the patients with schizophrenia to community, to improve the interaction and functionalities of the patients. As the findings in facial emotion recognition ability of violent patients with schizophrenia increase, it might lead to develop some preventive interventions and preclude recidivism in patients with schizophrenia.

PP-046

A case of death for recurrence of Giant Condylomata Acuminata Buschke-Lowestein's tumor

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Background: A case of death for recurrence of Giant Condylomata Acuminata Buschke-Lowestein's (GCBL) tumor after 20 years from the previous diagnosis is presented.

The victim was a 40 years old man with mental disorders found dead in his folding bed in the home where he lived with his old mother in very poor hygienic condition. When he was 20 years old perianal condyloma was diagnosed, and only two years before the death, which occurred in March 2011, he underwent surgical exeresis with percutaneous enterostomy for GCBL.

Results: At medico-legal investigation, the external examination showed signs of extreme thinness, cachexia and remarkable unsanitary conditions associated with many extensive ulcerations of the skin of the dorso-lumbar district.

The examination of the perineal district revealed a large ulcerated and necrotic mass tumor (diam. 15 cm) referable to the Buschke-Lowestein's cancer. The autopsy revealed the presence of necrotizing fasciitis localized in the posterior surface of the tights. Other relevant findings were represented by gastric ulcers and microembolic phenomena, secondary to the septic shock caused by the necrotizing fasciitis responsible for the death.

Conclusion: The Buschke-Lowestein's cancer is a verrucous carcinoma related to previous infection by papilloma virus type 6 and 11. Risk factors are represented by unsanitary conditions, condyloma acuminata, smoke and alcohol. The prognosis of the disease is generally favorable and it is related to the timing of diagnosis and treatment; mortality is low when early surgical eradication of tumoral mass with wide margins of excision is performed.

The complications of the disease are related to the growth of the tumor and consist of secondary infections, necrosis, fistula and recurrent abscess poorly responsive to antibiotic therapy, with possible progression to necrotizing fasciitis and septic shock.

In our case, as showed by health records and autopsy result, there were no other conditions responsible of the prolonged immobilization and the state of deep starvation except for the tumor of Buschke-Lowestein and its related complications.

The particularity of the case consists in the remarkable evolution of the disease, rarely lethal if promptly and adequately treated.

PP-047

Forensic evaluation issues in dysexecutive syndrome after traumatic brain injury

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Traumatic brain injury (TBI) is a serious public health problem with a high incidence, usually associated with significant neuropsychological deficits primarily in the domains of behavior, emotion and cognition.

Both the orbito-frontal and temporo-polar areas are disproportionately susceptible to damage after TBI. Their proximity to the frontal plate of the skull and the floor protuberances make these areas especially vulnerable to deceleration injuries in a blunt head trauma.

Depending on the frontostriatothalamic circuit damaged there are three clinically observable frontal behavioral syndromes. The dorsolateral prefrontal circuit has been associated with disorganization, inflexibility, loss of hypothesis generation and testing, impulsivity and distractibility, known as dysexecutive syndrome. The lateral orbital prefrontal circuit has been associated with disorders of self-regulation, such as the syndrome of frontal disinhibition. The anterior cingulate circuit has been associated with disorders of activation, spontaneous behavior and motivation resulting in syndromes such as apathy.

Furthermore the threshold for the clinical expression of dementia among predisposed individuals may be lower after TBI.

The authors present a case of a man who was struck in the head by an object, with loss of consciousness, submitted in the context of civil law, to a forensic examination, at Portuguese National Institute of Legal Medicine. After the traumatic event he developed not only global apathy with reduction in drive and motivation but also dementia. The ability to deal with situations that require goal formulation and planning was lost. Consequently he became personally, socially and occupationally disabled.

The variable nature of the injury mechanism, lesion location and severity makes the attribution of causal nexus challenging in patients with TBI.

Although clinical assessment is essential for the diagnoses and identification of behavioral abnormalities, it may underestimate the presence of cognitive deficits. A formal evaluation should be performed based on tests assessing: response inhibition, rules deduction, set maintenance and shifting, and planning and information generation.

PP-048

Causal nexus issues in meralgia paresthetica: regarding two cases

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The lateral femoral cutaneous nerve is a sensory nerve that originates from the first three lumbar nerve roots and travels along the posterolateral aspect of the psoas over the iliacus muscle in the region of the anterosuperior iliac spine. It enters the anterior region of the thigh by passing under, trough, or above the inguinal ligament and innervates the anterolateral part of the thigh. The highly varied regional anatomy of the lateral femoral cutaneous nerve may account for its susceptibility to local trauma by direct injury or compression.

Meralgia paresthetica is a mononeuropathy of the lateral femoral cutaneous nerve characterized by numbness, decreased sensation to pinprick, pain, tingling and burning of its skin innervation area. It is a relatively uncommon disease. In a recent case control study of a large cohort, in the primary care setting, the incidence rate of this condition was 4 per 10000 individuals. Medical history and neurological examination are essential in making the diagnosis. However sensory nerve conduction velocity studies are a useful additional diagnostic tool.

Meralgia paresthetica has many etiologies and can be subdivided into two main groups: post traumatic and spontaneous onset. The spontaneous type can be idiopathic, metabolic or mechanical (from increased intra abdominal pressure or external direct pressure). Even though this neurological condition can develop spontaneously at any age, it usually presents in the 30 to 40 year age group.

In the forensic setting it is important to acknowledge that traumatic events like seat belt injuries following motor vehicle accidents and injury during medical procedures with iliac crest bone harvesting can arouse this disease.

The authors present two cases of males subjected to forensic corporal damage evaluation at the Centre Branch of the Portuguese National Institute of Legal Medicine. One of them was a victim of a traffic collision and the other one was performed a diagnostic iliac bone biopsy. After these traumatic events both started a clinical syndrome of meralgia paresthetica. However taking in account the injury mechanism we only attributed causal nexus in one of the cases.

Regarding these two cases the authors discuss the relevance of different injury mechanisms for the differential diagnosis between spontaneous and post traumatic meralgia paresthetica. It is an issue of great importance to a correct forensic analysis of the causal nexus.

PP-049

A comparative study of Spanish and immigrant victims of violence during the years 2009 and 2010

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Background: Official statistics provide data on the violence that comes to the attention of the police and the court system. However, there is also violence that goes unreported, the extent of which is unknown. Hospital A&E departments are a valuable source of data on this underlying violence since in many cases they are the only points of contact between the victim and the institutions.
Methods: Descriptive observational study in a single location of a sample comprising 3,340 clinical histories of violence and 108 questionnaires administered to the victims during the years 2009 and 2010 in the A&E Department of Nuestra Señora de Gracia Hospital, Zaragoza (Spain).

The dependent variable was nationality. We distinguished between Spanish citizens and immigrants (from Latin America, North Africa, Sub-Saharan Africa, Eastern Europe and Asia). The independent variables were: age, gender, medical card holder or not, place of residence (i.e. neighbourhood), day of the week and time of day, type of violence and medical diagnosis. The survey also contained a number of other variables concerning the victim (length of residency in Spain, civil status, co-habitees, level of education, employment status, place of the assault, command of Spanish language, previous assaults, threats and reported incidents to the police) as well as questions concerning the aggressor (relationship with the victim, if any, origin of the aggressor, cause(s) of the assault, indications of intoxication with alcohol/drugs or narcotics).
Results: The number of foreign patients who were victims of violence was greater than the number of patients treated for a normal ailment. Immigrant victims outnumbered Spanish victims.

Immigrant victims were less likely to hold a medical card (81.6 %/96.5 %), were more likely to be the victims of sexual assault (32.3 %/21.5 %) and were younger on average than Spanish victims (31.4/35.8 years).

The largest proportion of victims came from Latin America (38.1 %) followed by North Africans (22.6 %), Sub-Saharan Africans (13.4 %) and Asians (4.4 %).

In all cases, the ratio between male and female victims was close to parity (50 %) with the exception of North Africans, among whom the percentage of female victims was just 12 %.

Victim questionnaires revealed that the frequency of assaults diminished the longer the person had been living in Spain, 86 % of the victims had an intermediate to advanced command of the Spanish language, a low level of education (68 % having completed only primary education or were illiterate), a high level of unemployment (32 % unemployed) and 54 % were unmarried.

PP-050

Proposal for a guide to medical assessment of the aesthetic alterations: aesthetic damage/deformity

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This article proposes to contribute with a “open guide” for medical assessment of the aesthetic alterations in the distinct judicial fields, whose applicability and development only will be shown through the forensic and juridical experience of all the involved in the assessment and repair of personal damages. After obtaining a representative number of cases, in the future this guide can be used for different teams of professionals to translate their results into a qualitative method using also quantitative methods of qualitative translation of this damage (analytical and mathematic formulas that might to be chosen) to proceed afterwards to the exchange of cases and discussion between groups of the criteria of qualification in order to obtain consensual reference parameters.

PP-051

Utilisation of the “AIPE” method in the assessment of the aesthetic damage and its application in the Brazilian civil and penal legislation

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The evaluation of body damage that causes aesthetic alteration should follow the principle of reasonability and also the conventional standard of proof in the legal proceedings. The objective of this essay is to propose the possible use of the Aesthetic Perception of Injury Analysis (AIPE) method in cases of valuation of disfigurement in the civil scope or the degree of deformity in criminal proceedings, since it is a method that facilitates for the user, the doctor, the dentist or the lawyer when creating a criteria of intensity or severity of this aesthetic damage and upon the resulting deformity, which may take the principle of contradiction by establishing some rules of use subject to reassessment by other evaluators, and be able to improve the principles of advertising and mediation when conveying to the judge the basis of this assessment as a simple and evident way in its construction. Once a method of assessing the intensity or severity of the disfigurement is established, it seems that this method can be perfectly applied to any civil or criminal legislation.

PP-052

Elderly Deaths Whose Autopsies were Performed in Istanbul City of Turkey Between 2005–2008

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Background: The study is aimed to analyze the properties of elderly cases whose autopsies were performed, and to discuss the precautions for preventing such deaths.
Material-methods: Autopsy reports between 2005–2008 of Morgue Specialization Department of Council of Forensic Medicine, were investigated retrospectively. Characteristics of 65-year-old or older cases were analyzed.
Results: Out of 1715 cases in total, 537 (31.31 %) were female, 1178 (68.69 %) were male. The overall mean age was 74.32±6.57 SD (min: 62, max: 99, median: 74). Among 1715 cases, 1505 (87.75 %) cases [451 (29.97 %) of which were female] were included in the study, because their death causes could be determined. In 977 (64.92 %) cases (n:302, 30.91 % female), death resulted from non-natural causes. According to the genders, there was not a significant difference between natural and non-natural deaths ($p>0.05$).

In the group of non-natural deaths, the most frequently seen death causes in females include general body trauma (GBT) (n:160, 52.98 %), hanging (n:29, 9.60 %), carbon monoxide poisoning (n:27, 8.94 %); whereas those in males were GBT (n:341, 50.52 %), firearm injuries (n:66, 9.78 %), and hanging (n:65, 9.63 %). In non-natural deaths, out-of-house deaths in males (n:246, 36.44 %) and house deaths in females (n:99, 32.78 %) were the most frequently seen location of death. There was a significant difference between the locations of death according to the genders ($p<0.001$). When the non-natural deaths were evaluated according to the origin; 587 (60.08 %) cases were accidental (n:182, 31.01 % female), 189 (19.34 %) cases were suicidal (n:57, 30.16 % female), 89 (9.11 %) cases were homicidal (n:24–26.97 % female). The origins of 112 (11.46 %) cases (n:39, 34.82 % female) could not be determined. The analysis of accidental cases showed that 360 (36.85 %) cases (n:96, 26.67 % female) were traffic accidents, 161 (16.48 %) cases (n:68, 42.24 % female) were home accidents, 8 (0.82 %) cases (n:4, 50.00 %) include falling down on the street, 7 (0.72 %) cases (n:1–14, 29 % female) were work accidents, whilst 51 (5.22 %) cases (n:13, 25.49 % female) were the other accidents. There was not a significant difference between origins, when compared with respect to genders. ($p>0.05$).

In 528 (35.08 %) cases (n:149, 28.22 % female), death was natural. Cardiovascular diseases were the most frequently seen ones in both genders (n:287, 75.73 % male, n:101, 67.79 % female) followed by pneumonia (n:37, 9.76 %) and cancer (n:23, 6.07 %) in males whereas cerebral hemorrhage (n:23, 15.44 %) and pneumonia (n:15, 10.07 %) in females.
Conclusion: Precautions to prevent the elderly from traumas especially from accidents, as well as education programs can be useful for decreasing the rate of accidental deaths whilst the support for care at home of elderly can be considered to decrease deaths at home.

PP-053

Lethal Outcome Sepsis as a Complication of Amniocentesis: Two Case Reports

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Background: Amniocentesis is a method used in diagnosis of chromosomal abnormalities and fetal infections, in which a sample of amniotic fluid is taken from the amnion during the 15th and 20th week of pregnancy. This procedure has risk for developing some complications. Lethal outcome sepsis can be seen rarely. In the study, two amniocentesis cases were presented in which both fetus and mother have died due to sepsis and amniocentesis' complications were reviewed.
Case-1: Because 1/200 risk for Down Syndrome was detected on screening tests, amniocentesis procedure applied to the 29-year-old woman, who has 18,4 weeks pregnancy. Two days after, she came back to the hospital due to complaints of pain, nausea, vomiting, high fever. She was hospitalized with the diagnosis of "Chorioamnionitis and intrauterine exitus of fetus". Her fever was 40°C, blood pressure: 90/60 mmHg, pulse: 96/min, leukocyte:10100, thrombocyte:172000. Blood control values were as follows: leukocyte:1980, thrombocyte:57000. She was transported to the another hospital for the treatment of sepsis. Unfortunately, disseminated intravascular coagulopathy developed at this hospital at the same day. Defibrillation applied two times for cardiac arrest. Despite this, she died at 20.15 o'clock at the same day, two days after from amniocentesis.

Olgu 2: Two times amniocentesis procedure applied to the 20-year-old woman by one day interval, who has 18 weeks pregnancy, because increased risk was detected on ternary screening tests. After two days, she came back to the hospital due to disturbance of general condition, high fever, respiratory distress. She hospitalized by the diagnosis of "septic shock and multiple organ failure". Fetus was taken out from uterus and the cavum was controlled by curettage. Mechanic ventilation support was began two days after because of respiratory insufficiency. In the following days, her theraphy was continued in intensive care unit. After 27 days from amniocentesis, cardiac arrest developed. Although cardiopulmonary resuscitation and defibrillation application, she died at the same day.

Both of the cases' medical documents were investigated in the First Specialty Board of Council of Forensic Medicine, it was decided that death cause was sepsis and it's complications.
Conclusion: Although all of the modern progresses in medicine, amniocentesis is still a difficult medical procedure which is carrying risks for certain serious complications such as fetal and maternal mortality.

PP-054

Mini-Mental State Examination Implementations for Civil Responsibility Evaluation

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Background: Law gives certain rights and authorities to individuals. These are issues in daily life like the freedom to act (like the marriage); to own, to use, to benefit from, to transport to keep or to refuse something, to do or let someone do something, and to become indebted or creditor to someone. Civil responsibility indicates the ability to be holder of a right or to become indebted to someone. Civil responsibility is defined in the civil law. Courts are sent persons to the expert witnesses to determine that they have civil responsibilities or not. The mini–mental state examination (MMSE) or Folstein test is a brief 30-point questionnaire test that is used to screen for cognitive impairment.
Method: We aimed, civil responsibility cases admitted to Forensic Medicine Department and official reports which were prepared after the obligatory examinations were analyzed with the assistance of Mini-Mental State Examinations. In this study about cases with civil responsibility referred to Forensic Medicine Department of Ankara University Hospital (Ankara, Turkey), which evaluated 30 cases for the purposes of socio-demographical characteristics and medical diagnosis between January 1, 2011 and March 15, 2012 were reviewed.
Results: Cases which performed Mini-Mental state examination after evaluated court file and signs of examinations it is purposed to investigate and discuss related with civil responsibility consent.
Conclusion: Mini-Mental state examination can provide support for complete evaluation of civil responsibility cases.

PP-055

Analysis of pediatric forensic cases who appealed to the emergency service

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Background: In the study, it was aimed to determine the profile of the pediatric forensic cases who applied to the emergency service and to analyze the relationship with pediatric age groups.
Material-methods: Forensic reports and medical documents of the pediatric cases who had appealed to the emergency service of Abant Izzet Baysal University Research and Application Center between 01.01.2008-31.12.2009 were analyzed retrospectively. Statistical analysis were performed by using chi squared and One way-Anova tests.
Results: Total 1317 cases had appealed to the emergency service and 20,6 % (n:271) of them were pediatric cases. Of the cases, 62.0 % (n:168) were male and the mean age was 10.51±5.71. Most frequently seen age group and month were 15–18 and August respectively. Type of forensic events were motor vehicle crash (55.4 %) (47.2 % intra-vehicle and 8.2 % extra-vehicle), falls (15.9 %), stab injuries (11.4 %), intoxication (4.4 %), beating/blunt trauma (4.1 %), the others (8.1 %). Forensic incidents were reported to occur mostly during daytime (12:00–18:00). Arrival time to hospital was 74.68±92.54 min. (between 10–555 min.) in average and staying time in emergency service was 1–4 hours (42.8 %). There wasn't statistically meaningful difference between age groups and arrival time to hospital, and staying time in emergency service (respectively $p=0.149$, $p=0.958$). Head-neck (44.7 %), lower extremity (78.7 %), trunk (80.5) injuries were most frequently seen regions in traffic accidents whereas upper extremity injuries were most frequently seen in stab injuries (33.7 %). Head-neck region injuries were significantly high in 15–18 age group ($p=0.039$). There wasn't meaningful relationship between lower extremity ($p=0.116$), upper extremity ($p=0.901$), trunk ($p=0.337$) injuries and age groups. Last diagnosis were soft tissue injury (52.8 %), epidermal-dermal incision (26.6 %), bone fracture (19.2 %), tendon incision (6.3 %), hemo- pneumothorax or intracranial hemorrhage (3.3 %). All of the cases, 16.2 % have been sent from another health center to the our service. Discharging rate from the emergency service was 65.7 % and hospitalization rate was 28.8 %. The remainder cases were sent to the other hospitals or died in the emergency service.
Conclusion: Pediatric age group injuries mostly occurred as intravehicle traffic accident (47.2 %). Therefore, this type of injuries is preventable. Giving education to the parents and children about pediatric home accidents, intoxications and how to prevent them will be useful for prevent such events.

PP-056

Aggressions perpetrated by siblings. A study in the North of Portugal

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Background: egative sibling interactions in conjunction with poor parenting practices during middle childhood predict social and psychological adjustment problems like psychopathology, poor peer relations, academic difficulties, engagement in antisocial behaviors and number of law violations and arrests through adolescence and young adulthood. Thus, the general aim of this study is to provide more information about non-fatal violence between siblings in Portugal, stressing the need to create public policies in order to draw the attention to this particular type of intra-familial violence and to prevent it.
Method: A retrospective study was conducted based on the analysis of forensic reports, regarding the following inclusion criteria (n=1594): victims of alleged physical offense; perpetrated by a sibling; observed at the north forensic services of the National Institute of Legal Medicine (Portugal); between 2006 and 2010.
Results: Results allowed us to draw the following: (1) Aggressions perpetrated by siblings represent 14 % of the domestic violence cases and 2 % of the offenses against physical integrity cases reported to the forensic services in the north of Portugal, but the real number may be masked by underreport; (2) This represents a cross-sectional problem that affects people of all ages (min=1; max=81; mean=40.56); (3) Most of the victims were females (62 %) and aggressors were males (73 %); (4) Alleged perpetrators presented at least one risk factor in 21 % of the cases; (5) Physical violence was the most frequent offense – 91 % blunt trauma; (6) Injuries were present in 85 % of the cases (mild injuries in 95 %), mostly at the upper limbs (56 %) and face (44 %); (7) Victims search medical in 66 % of cases; (8) Mean time for injuries' heal was 9.06 days; (9) Mean time of absence from work was 4.35 days; (10) Injuries represented danger to the victim´s life in 0.3 % of cases; (11) In 7 % of the cases there were permanent consequences: 78 % aesthetic, 17 % orthodontic, 7 % orthopedic, 5 % neurologic and 1 % psychological; (12) More violent aggressions were significantly associated with male victims, male aggressors and with brother-brother dyads ($p<0.05$).
Conclusion: Future research is needed for a better understanding regarding this phenomenon, namely prospective studies. Nevertheless,

this study represents a step forward in addressing questions about a phenomenon that has not been much researched, until now, in Portugal.

PP-057

Matricide and chronic mental illness: a case report

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Background: A review of literature indicates that chronic mental illness or lack of appropriate treatment for individuals with a psychiatric history are significant risk factors that are associated with matricide. As a particularity, the murder is usually committed in the victim's house.
Method: In this paper the authors present a case of matricide committed by a mentally ill young man, alongside the review of relevant literature.

Following a contradictory discussion, X.Y., boy, 17 years old, killed his mother and grandmother by multiple stabbing and strangulation by hand. During the police investigation X.Y. underwent a medico-legal psychiatric examination which revealed many particular aspects of the case.
Results: X.Y. showed behavioral disturbances since he was 4 years old. Later he was diagnosed with paranoid schizophrenia according to ICD-10 and DSM IV-TR diagnostic criteria. The evolution of the disease was chronic with numerous admissions to the psychiatric hospital. His mother always wanted to protect him, tried to hide his condition and did not acknowledge the seriousness and severity of his chronic mental illness.

Studies have shown an association between homicidal behavior and psychiatric disorders although it is difficult to conclude that a clear causal relationship exists between specific chronic mental illnesses and particular types of homicide. In some cases there are certain early warning signs, such as a recent disorganization of behavior or a significant degradation of a preexisting psychotic illness. According to the police investigation, X.Y. committed many previous assaults against the members of his family. He committed the double murder on the background of the loss of self control and impaired judgment, which played a major role in the outcome of events.
Conclusions: According to the results of the medico-legal examination, we assume that this tragedy could have been predicted. An adequate family conduct and climate added to additional therapies might have prevented X.Y. criminal outburst. The ambivalent relationship that might exist between the schizophrenics and their mothers suggests the need for an adequate clinical intervention in the families in order to resolve the psychological tension which might become the provoking stimulus for committing murder.

PP-058

Evaluation of forensic cases in emergency service, Mustafa Kemal University Hospital of Medical Faculty

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Recording and reporting the findings of trauma patients admitted to emergency departments, is among important responsibilities of physicians. In this study. İt is aimed to draw attention to the importance of the forensic reporting about trauma patients issued by emergency physicians. Records of forensic cases admitted to Emergency Department of Hospital of Medical School of Mustafa Kemal University, between January 2008 and October 2011 were retrospectively investigated.

There was 843 forensic cases in the study period. Of these, 581 (68.9 %) were male and 262 (31.1 %) were female. Their ages ranged between 1 and 121 years. The most frequent cause of admission was traffic accidents (40.1 %), followed by intoxications (16.7 %). Most of forensic cases were concentrated during summer months, especially in August. Preparing forensic reports accounts for a workload for physicians working in emergency departments.. Besides providing emergent medical interventions, they are obliged to fulfill the legal responsibilities of preparing a complete forensic report.

PP-059

McArdle Disease and Trauma: A Case Report

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Introduction: Forensic traumatology, includes a wide range from simple abrasions up to fatal wounds. The people who have systemic, inherited or acquired diseases, when exposed even to a mild trauma can result to severe consequences. In this case, the person having a disease, injured by a simple trauma concluding to a serious result, will be evaluated by forensic medical point of view.
Case: 19 year old male patient, was discharged from hospital after diagnosing no other findings but superficial abrasions on his right knee. The case 5 hours after being released from the hospital returned with abdominal pain, nausea and vomiting. The result of the examination and tests such as BUN, Cr, CKMB and CK values were very high. After diagnosing rhabdomyolisis and acute renal failure, he had hospitalized in Nephrology Clinic. By the deterioration of the overall situation and elevation in laboratory findings, he had received dialysis treatment. His general condition improved after dialysis and medication. In his story he told; he couldn't remove heavy objects since he was younger, getting tired fast and muscles toughened when making sports. After research; Carnitine Palmitoiltransferase enzyme deficiency and muscle biopsy findings were defined compatible with glycogen storage disease type 5(Mc Ardtle).
Conclusion: Our case, was a McArdtle disease patient which had gone into acute renal faiulure, by the insuficiency of Carnitine palmitoiltransferase enzyme after overdose destruction of muscles. In normal conditions the wounds which can be cured by simple dressing, affect people having these kinds of disorders, ending up to deathly results. Similarly, cases were known resulted by death, like hemophilia patients, or patients having large cysts in visceral organs. The awareness of the attacker, of the victim's disease should not be counted as an excuse.

PP-060

Incidence of Firearm Injuries in Upper Egypt

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Background: Firearm injuries are very common nowadays. They may result from criminal, accidental discharge or suicidal attempt.

Firearm is fast becoming a major killing apparatus. The invention of firearm has come as a curse to this world; it has become the most dreaded killing tool used by human being to kill themselves. The frequency of firearm related deaths appear to be higher in nations where firearms are more readily available, either legally or illegally.

Objectives: A study was conducted on the firearm injured cases collected from medico legal files of the Medico legal Department, Ministry of Justice and comparing the incidence of its fatalities in different Upper Egypt Governorates and analyzing data from one of them according to different items.

Material & methods: Firearm injuries cases were selected from archive files of cases examined by Medico legal Departments, Ministry of Justice in Assiut and different Egyptian Governorates in Upper Egypt (Sohage, Qena and Aswan). The cases were analyzed for evaluation of seasonal variation and distribution among cities. The cases collected from medico legal files of the Medico legal Department, Ministry of Justice in Assiut Governorate were analyzed for age and sex of the victims, site and direction of injuries. In addition to the value of examination of clothes and type of weapon used. All data subsequently underwent descriptive statistical analysis using SPSS program version II.

Results: The summer season represent the highest season of firearm injuries followed by spring. the highest percentage of injuries belong to male victims in 4th decade. Head was most common target for inference followed by chest (31.25 % and 21.43 %) and the anterior-posterior direction was common (24.11 %). Examination of clothes was of value in 63.40 % of cases and about 59.82 % of cases forensic doctors couldn't determine the type of weapon.

Conclusions: In spite of legal restrictions on the illegal access of firearms, access is easy and deaths by firearm wounding are still increasing. Recommendations: Strong and effective measure to control the unlicensed arms. Using modern techniques in crime scene investigation. Educate medical personnel in emergency department about importance of clothes in firearm cases.

PP-061

Non-fatal self-inflicted injuries - The relevance of its characterization in forensic evaluations

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Background: In Portugal, after a given victim suffers an assault and presents a police complaint, he or she is submitted to a forensic evaluation at the National Institute of Legal Medicine and Forensic Sciences (INMLCF). The goal is to provide the court information concerning the injuries resulting from the offense, the plausibility between the described trauma mechanism and the findings, as well as the consequences that arouse or are expected to arise from the offense. Of all the issues to be considered and discussed in the forensic expert's report, one of the most complex may often be the compatibility between the victim's description of trauma and the injuries observed during the medical examination, namely the differential diagnosis with self-inflicted injuries (generally with simulation purposes).

Methods: Cases from the North Branch of the INMLCF were selected (n=13), where the injuries presented were considered by the forensic medical doctor as self-inflicted or (highly) suggestive of such, between 2009 and 2011.

Results: The cases studied represent 0.07 % of the total of alleged assaults in the same time period (n=18586). In such cases, often the consistency between the victim's information and the injuries observed lacks, not only because the trauma mechanism may not be the one described, but also because the injuries' specific characteristics can lead to the hypothesis of self-infliction, commonly using some sort of a sharp object. The characteristics associated with self-inflicted injuries are well known in literature and include the following: lesions located in an accessible anatomical region, shallow lesions in the non-dominant side of the body, parallel lesions, among others. Also in common is a background of mental disorder or some perspective of gain (e.g. in one of the cases the victim had been robbed and some injuries were added to increase the visual impact).

Conclusion: Even though the diagnosis may be virtually immediate and intuitive on first looking at the victim, such perception is hardly of any use in a legal context, where a reasoned opinion is demanded. A structured argument has to be made and thus previous medical records and photographs of the lesions are of paramount importance to document and ground the observation before a Judge. Moreover, a psychological assessment may also be in order in some of these cases and its relevance must also be pointed out to the Judge.

PP-062

The Evaluation of Casualty Relation Between Trauma and Clinical Statements Developed by Myocardial Ischemia as a Consequence of Post-trauma

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Coronary artery disease may be in existence for many long years without any symptoms. The development of cardiac vascular system diseases without any symptoms was accepted to accelerate in relation with the external factors like effort, stress by all scientific environments. In this point of view, in a person exposed to unwanted external factors, clinical statements resulted dramatically bounded with coronary artery disease without any symptoms, might be seen. This situation brings the necessity of ambidextrous evaluations for both victim and defendant. To establish the casualty relation between the traumatic influence and clinical statement is the most important stage. The time period of establishing the casualty relation between the traumatic influence and clinical statement, the character of trauma and clinical statement, symptoms determined by supportive diagnosis, whether the person before the case has coronary artery disease or other cardiac problems or not were evaluated all together and medical opinions were held as well.

Between 2006–2010, in 5 years time period, the cases which 2nd Forensic Medicine Specialization Board asked to submit their opinion about the people exposed to a traumatic deed and then after showed cardiac pathological symptoms analyzed retrospectively in this study. Totally 26 cases determined in supposed period. All cases consist of men and the average age is 55.8. Cases examined with the character of injury, the time period between trauma and cardiac pathologic symptoms, clinical statement, visualization, laboratory input and opinion of medical consultant by taking the literature into consideration.

PP-063

Stab Wound Caused Winged Scapula: A Case Report

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Introduction: There are many causes of winged scapula as well as a result of traumatic, idiopathic and iatrogenic injury, it is characterised by at least one of the paralysed muscles of serratus anterior, trapezius or rhomboid causing the edge of scapula medial diverging from the chest wall. Our case developed winged scapula caused by nerve injury during a fight, injured by cutlery from the left side of the neck and left back side of the chest wall and the case will be evaluated by becuase it is rarely encountered in forensic medicine.
Case: 38 years old male, taken to emergency service of the hospital after he was stab wounded during a fight; under the left scapula on 6th intercostal space, thorax preponderant cut, under the left earlap cuts caused skin-underskin muscle hematomas and cuts in mandible and slight cuts on right hand was described. Left pneumothorax observed in graphies, tube thoracostomy placed and the patient discharged from the hospital after lung expansion. One month later after the incident, the patient suffered from shoulder pain and diagnosed by scapula lata in the hospital. In his examination in our Board, 3 cm under the left earlap, under left scapula nearly on 6th intercostal space, on the left earlobe, on the left mandible, on the second finger proximal of right hand scars observed. Permanent neurologic deficit not detected in the neurologic examination.

Orthopedics examination revealed scapula lata on the left scapula, left shoulder abduction 80–85 degrees restricted, during abduction of left shoulder the inner and external rotations were limited. The most important symptom of the physical examination observed when the patient trying to push the wall with his two hands the scapula coming up at his back. Our Board diagnosed it as winged scapula and its casually connected with stab wound.
Conclusion: "The life-threatening condition" was reported due to pneumothorax in juridicial report. "Winged scapula" constitutes the sequela of stab wound, established by us after the examination. In juridical reports, collateral damages and sequelas as a result of the crime, should also be evaluated beside the main damages. Furthermore, the juridical reports should be prepared after physical examination by experts rather than preparing reports by taking only dossier into consideration.

PP-064

Dental damage in Penal Law. A 7 year long analysis

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Crimes against physical integrity are contemplated within the 3rd chapter, 1st title of the Second Book of the Portuguese Penal Code, of which we point out the articles 143rd (simple bodily harm) and 144th (serious bodily harm).

The penalty for a bodily harm offence is determined by the Judge, after reading the description of the sequels reported by a medical expert, hence the great importance of a rigorous and extensive report, in order to minimize the damage towards the victim.

Within the last few years, dental damage has often been referred to as a secondary element amongst other types of bodily harm, since a tendency exists to minimize the severity of this kind of injury, not accrediting it´s real importance.

The authors hereby present a Criminal Law retrospective study of all body-damage evaluation exams, conducted between the years of 2005 and 2011, of which 141 (1.31 %) of them were related to victims who had suffered dental damage.

Several variables were characterized in order to establish the victims' profiles, circumstances of the occurrence, temporary damage and resulting sequels.

There has been a slight increase in the number of victims who suffered dental damage, most of them pertaining to male individuals aged between 19 and 30 years of age. All of these lesions were caused by a blunt trauma, with dental fractures as the most frequent type of injury. These lesions led to all of the victims having to take sick days of, having affected the working capacity in 109 cases. Only 25 victims were left with sequels, one of which was considered serious bodily harm.

Given the complexity of the dental system, specific knowledge is required, becoming essential for the understanding and accurate assessment of dental damage.

Due to the ease with which the face can get struck by traumas, the occurrence of dental lesions is frequent. In spite of it, the majority of the cases studied did not result in permanent damage.

Even though this kind of injury is less significant when compared to other sensory and motor lesions, it must not be underestimated or undervalued.

Forensic Medicine is faced with increasingly complex demands regarding probative scientific activity, being responsible not only for the diagnosis of the cases but also for contributing to the eradication of this type of violence, by providing evidence to the enforcement of Justice.

PP-065

Alleged sexual offenses. An audit to the forensic reports in the north of Portugal

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Background: The National Institute of Legal Medicine and Forensic Sciences (NILMFS) of Portugal has a formal competence to guarantee quality standards of forensic expertise, in order to perform a skilled intervention and the legal validity of the proof. Quality standards are assessed through regular internal audits to the forensic reports. This system allows monitoring reports' quality, identifying weaknesses and strengths, to support NILMFC strategies in this area. The aim of this study is to analyse the relevance of reports' audits regarding alleged sexual offenses (SO).
Material and methods: An audit form was created for quality control of reports regarding sexual physical evaluation. It includes 9 items: (1) turnaround time (gap between the dates of exam and conclusion of the report) and data encompassed by the report: (2) history of case (3) documentation data; (4) personal and familial antecedents; (5) complaints; (6) physical examination; (7) ancillary exams; (8) discussion; (9) conclusions. Each of these items is classified according to the following score of points (pts): -1, 1, 2 and 3. These values were added and led to a final score which classifies the quality level of the forensic report (QL) as: very good - grade 3 (24 to 27 pts); relevant - grade 2 (18 to 23 pts); adequate - grade 1 (10 to 17 pts); inadequate - grade −1 (−9 to 9 pts). In the present study, 376 audit forms related to SO, performed between 2009 and 2011 at the 9 north departments of the NILMFC,

were analyzed – 63.6 % of the reports (n=591). Peer review of each report was performed by a four forensic experts' team.
Main results: The final scores achieved in the audits of forensic reports of alleged sexual offenses, allow an analysis in order to assess their progressive uniformity, harmonization and approaching to NILMFS standards. We can compare the evolution in this field, along 2009, 2010 and 2011, among the different forensic offices in the north of Portugal.
Conclusions: We believe this model of auditing reports of SO physical evaluation is a powerful tool, not only to improve the quality of medico-legal reports but also to promote the harmonization of this activity, leading to a best support to the court decisions. It may serve as a model for other Clinical Forensic Medicine Services, particularly those with residency training programs. Audit form criteria development could be a possible mean to improve Quality standards.

PP-066

Characteristics of Geriatric Forensic Cases who Applied to the Emergency Service

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Background: In this study, it was aimed to evaluate the demographical properties and events' characteristics of the geriatric forensic cases who applied to the emergency service.
Material-methods: Data of 65-year-old or older forensic cases who applied to the Emergency Department of Abant Izzet Baysal University Research and Application Center between 01.01.2008-31.12.2009 were evaluated retrospectively from their medical documents and forensic reports.
Results: Of total 986 adult forensic cases, 75 (7.6 %) were geriatric. Among them 42.7 % were female, 57.3 % were male. The ages were between 65–94. Average age was 72.4±6.4 whereas 75±7.4 in females and 70.2±4.4 in males. Incidents were most frequently occurred in June and in the summer. Type of the forensic events were motor vehicle crash in 40.0 % (33.3 % intra-vehicle and 6.7 % extra-vehicle), falls in 32.0 %, others in 18.0 % (stab injuries in 5 cases, intoxication in 4 cases, pounding in 3 cases, burns in 3 cases whereas firearm injuries, occupational accident, kicking by an animal in 1 case each other. The case was brought to the hospital in 79.6±92.8 min. (between 10–360 min.) in average and by ambulance (77.3 %). The most often staying time in the emergency service was 4 hours (53.3 %). Events mostly occurred between 12:00–18:00 o'clock, however most often discharging time is between 18:00–24:00. There wasn't meaningful difference between the type of the event and staying time in the emergency service for along four hours or more (p=0.285). The cases of motor vehicle crash were arrived to the hospital (43.3±40.3 min.) earlier than the cases taking place in the group of others (132.9±143.9 min.) (p=0.024). Head-neck (56.7 %) (p=0.094), lower extremity ((20.7 %), trunk ((46.7 %)(p=0.005) were most frequently seen injured regions in motor vehicle crash, but there wasn't meaningful relationship between them and type of the event. Upper extremity injuries were most frequently seen (55.6 %) in the cases taking place in the group of others (p=0.0001). The majority of the injuries were soft tissue injuries (40.0 %), bone fractures (30.7 %). Soft tissue injuries were more seen in motor vehicle crash than the other type of incidents (p=0.0001). Orthopedic consultation was required for 48.0 % of the cases and 14.7 % of them hospitalized in the Orthopedic Department. The discharge rate from the emergency service was 46.7 %.
Conclusion: Precautions to prevent the geriatric people from traumas especially from traffic and home accidents, giving information about using drugs and intoxications may be useful for reducing risks of such events to occur.

PP-067

Non-fatal occupational accidents in the Lisbon Area: victims and circumstances

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Background: Occupational accidents have an enormous impact on the national economy and health of the workers. In Portugal, more than 240,000 employees are injured or killed in workplace accidents each year, with more than 7,000,000 days off, according to the official statistics. The Law nº 98/2009 defines occupational accident as a sudden and unexpected event suffered by an individual at the workplace or during working hours, performing work related tasks and/or during work related transportation. The aim of this study is to characterize a population of victims of occupational accidents occurred in the Lisbon jurisdiction in the first semester of 2010.
Methods: The data was collected from 484 medico-legal files of the South Branch of the National Institute of Legal Medicine and Forensic Sciences, where, under the Portuguese law, the vast majority of the survival victims of this kind of accidents are examined by specialists in Legal Medicine. The data include either medico-legal examination reports, all the information related to accident circumstances and subsequent medical intervention (treatment and rehabilitation). The information was reviewed for general socio-demographic characteristics as well as accident temporary and permanent consequences to the victims.
Results: About 59 % of those were males and more than a half of the total was between 21 and 50 years old. The majority of the injured people were related to employees in the tertiary sector of activities (61 %) who had been victims of accidental falls (35 %). The main injuries were related to fractures and sprains of the limbs (65 %). The time average of treatment was 301 days (from a minimum of 1 to a maximum of 1621 days, with a SD=216). Among those who had suffered a permanent damage, the vast majority of this (89 %) was related to the locomotion apparatus. Impairment of the victims to their work was differentially evaluated by insurance experts and the official ones (average: 4.41 vs 7.37).
Conclusions: As expected, the majority of the injured people were related to the tertiary sector of activities, however most of these accidents were related to failure to comply with the safety rules in work which are fixed by law. These findings claim for a better regulatory framework of the work conditions with a stricter monitoring by legal authorities and more severe penalties for the employers. Otherwise, official medico-legal evaluation of damage shows to be more fare for victims' compensation than the evaluation done for insurance companies.

PP-068

Elder abuse. A preliminary forensic approach

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Introduction: The idea that elder abuse should be considered as a disease is starting to arouse between the health community, but there is still a lack

of information in detecting and diagnosing these cases and identifying risk factors. The cases reported to the clinical forensic services, which are physically evaluated, represent only a few of the real number, but their analysis can bring us important knowledge about this problem.

Objectives: Since there are few studies in Portugal concerning this issue, the general aim of the present study is to contribute to a better characterization of elder abuse in this country. This will allow an early detection and diagnosis of this kind of abuse, namely by the health care professionals, as well as a better orientation for the implementation of prevention strategies

Material and methods: This study included alleged victims of intra-familial abuse, more than 64 years old, observed at the North Branch of the National Institute of Legal Medicine in 2010 (n=272). Data was analyzed using software SPSS 17.0.

Results: Elder abuse corresponds to 4.3 % of all types of abuses reported in that area and year.

The majority of the victims were women (71.3 %), retired (84.9 %), married (65.8 %), in a relationship with the alleged offender (54.1 %) and with an average of 72.24 years old. The alleged offenders were mostly males (78.3 %) with an average of 53.7 years. In 21 % of the cases the abuse was recurrent and in 10.3 % occurred for more than 35 years. Most of the reported cases were related with physical abuse (93.4 %) and consisted in kicking, slapping, punching and pushing (68 %). The limbs (23.9 %) and the head/face/neck (23.2 %) were the main locations of aggression. Only half attended the health services (57 %) and there was need to suture the skin in 8.8 %. In 30.2 % of the cases there were no injuries; in the other cases, mostly were mild injuries and only in one case a bone fracture was diagnosed. The elapsed time since the last abuse and the forensic evaluation was superior to 8 days in 12.9 % of the cases.

Discussion and conclusions: Even without any serious physical injuries, this kind of violence can represent a relevant physical and mental health problem with socio-familial and financial consequences, which must be considered in future studies.

PP-069

Evaluation of Some Cephalometric Parameters in 4- to 11-Year-Old Boys of Kurmanj Ethnic Origin (North Khorasan, Iran)

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Statement of problem: Anthropometry is applied in medical profession such as forensic medicine, maxillofacial surgery, plastic surgery, bioengineering and non-medical branches such as like respiratory equipment and eye-glasses industries.

Aim: The aim of this study was to determine cephalo-facial anthropometric ratios and assessment of cephalo-facial development in 4- to 11-year-old boys of Iranian Kurmanj population.

Materials-methods: This cross sectional analytical study was conducted randomly on 564 boys from North Khorasan (Shirvan), with normal face patterns. Cephalo-facial ratios were estimated and compared. The regression line and the growth coefficient was determined for each Parameter. Finally, the mean values of these parameters were determined. Data were analyzed by SPSS software. Pared t-test were used for statistic analysis.

Results: Anthropometric results obtained from 4 to 11-year-old Kurmanj boys residing in the city of Shirvan show that there is a special discipline in growth of different parts of face and skull. We reached formulas that may have a wide range of applications such as prediction of facial situation of an individual before or after his/her present situation. Such predictions can be helpful in forensic medicine, for instance in finding the lost kids.

Conclusion: We have proposed a craniofacial development model that takes into account both psychophysical evidences on how humans perceive age progression in faces and anthropometric evidences on facial growth Based on our findings and by using artificial intelligence technology, computer programs can be designed to reconstruct facial forms of the individuals from a specific ethnicity at different ages.

PP-070

Pseudoaneurysm and A-V Fistula Case Associated with Firearm Injury

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Complications related to peripheral blood vessels are seen frequently in firearm injuries of extremities. In most of these cases artery and the vein next to it (and sometimes the neuron also) are injured together and clinical findings related to the injury are frequently present during first aid. In serious blood vessel injuries, early diagnosis and intervention is usually vital in saving the extremity.

In perforans injuries of the extremities, physical examination findings only may not be enough for eliminating a possible vascular pathology totally. Keeping potential complications in mind, non-invasive, and if necessary invasive techniques should not be hesitated to be applied.

Blood vessel injuries created by firearm injuries during forensic reporting are not seen as frequent as complications such as broken bones, yet pseudoaneurysm or A-V fistula development is also seen and it is obvious that determination of these clinical situations will have an effect on the forensic report that is to be edited.

In this study, we shall present a pseudoaneurysm case which has happened in early period due to femoral artery being isolated and experiencing trauma with the case coming to our council for a report request and having developed after a firearm injury on the left proximal femur.

PP-071

Etiology, pathogenesis, outcome and costs of nosocomial infections in the Intensive Care Unit

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Background: The epidemiology of nosocomial infections (NIs) in Intensive Care Unit (ICU) is critical for both patients and professionals/healthcare teams safety, impairing efficiency and effectiveness of therapies as well as increasing healthcare costs.

Methods: The goal of our study was to identify and to assess costs attributable to NIs in the ICU of "Policlinico" Hospital in Bari. We prospectively followed patients admitted to ICU between January 1th, 2012 and March 31th, 2012, collecting age, sex, admission typology, comorbidities (Charlson Index), severity on admission (APACHE II score), sepsis severity, ICU length of stay (LOS), ICU mortality. In order to identify the independent predictors of ICU LOS a stepwise analysis was performed.

Results: Out of 57 patients evaluated, 26 (45.6 %) patients were already infected on ICU admission, 8 by a community-acquired infection (6 severe pneumonia, 2 urinary-tract infections) and 18 by a total of 24 hospital-acquired infections (9 pneumonia, 1 bacterial meningitis, 5 abdominal, 3 skin-soft tissue, 2 urinary tract, 1 catheter-related bloodstream, and 3 primary bloodstream infections). Demographic and clinical characteristics of patients with nosocomial infections on admission were: median age 71.5 (IQR 62–81) years, Charlson Index 3.8±3, APACHE II 22 (IQR 18–28), major surgery 9 patients (50 %), steroid therapy 3 patients (16.6 %), septic shock 13 patients (72.2), pre-ICU admission hospital stay 13.5 days (5–25), ICU LOS 19 days (5–31), ICU mortality 9 patients (50 %). In 10 patients ICU LOS was shorter than 3 days, and therefore, a total of 47 patients were evaluated during ICU stay. Twenty (42.5 %) patients acquired a total of 26 NIs, with an incidence rate of 34.9/1000 patient-days, distributed as follows: 10 ventilator-associated pneumonia (VAP), 6 urinary-tract infections (UTIs), 6 catheter-related (CR) bloodstream infections (BSI), 4 primary BSI. Incidence rates of VAP, CRBSI and UTIs were 15/1000 ventilator-days, 4.4/1000 intravascular lines-days, and 8.06/1000 urinary catheter-days, respectively. The onset time of NIs was of 16±8 days from ICU admission. Clinical characteristics and outcome of NI and control groups are reported in the table. In the stepwise analysis, ICU-acquired NI was the only independent predictor of ICU LOS (p=0.001).

Conclusion: When patients develop NIs there are important implications in terms of quality of care, mortality and increase of length of stay and costs.

Strategically, implementing quality assurance and quality control measures to the health care sectors and evidence-based management are effective techniques of controlling NIs, and it seems the most feasible approach.

PP-072

Relationship between Chronobiology and Delinquent Behaviors in Euthymic Bipolar Disorders

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Aims: Dysfunction of circadian rhythms is thought to have roles in the pathophysiology of bipolar disorder. Besides, the types of circadian types are thought to relate with aggressive and delinquent behaviors. Thus, we aimed to compare the chronobiologic aspects in euthymic bipolar patients with or without delinquent behaviors.

Methods: Twenty six euthymic bipolar patients with delinquent behaviors and 71 bipolar patients without delinquent behaviors were included in the study after giving consent. They were asked to full fill Morningness-Eveningness Questionnaire of Horne and Östberg which assesses the chronotype and Barratt Impulsiveness Scale.

Results: The mean age of delinquent bipolar patients was 36.04± 9.43 and 36.92±11.12 in non-delinquent group (p=0.721). The mean duration of illness was 10.38±8.35 years in delinquent group and 12.60±7.82 years (p=0.224). There were 6 eveningness type, 13 neither type, and 7 morningness type patients in delinquent group while these numbers were 9, 43 and 19 in non-delinquent group, respectively. There were no significant differences according to the types of chronobiology among groups (X2=1.69 and p=0.428). Mean impulsivity scores were 59.38±11.33 in delinquent group and 55.97±13.84 points in non-delinquent group. There was no significance between groups among impulsivity scores (p=0.265).

Conclusion: Previous studies regarding the personality of chronotype suggest that morningness-types have a healthier lifestyle, have a stronger internal locus of control, are more conscientious, and show higher self-esteem than eveningness types. In a recent study, impulsivity was significantly higher in eveningness type than other chronotypes in depressive patients. Also, being male and eveningness type was significantly correlated with higher impulsivity scores in a study of healthy university students. However, contrast to our hypothesis, we could not find any significant differences according to chronotypes or impulsivity between euthymic bipolar affective patients with delinquent or without delinquent behaviors.

PP-073

Two cases of dural sinus thrombosis and review of the literature

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Dural sinus thrombosis (DST) may occur due to infection, surgery, hypercoagulability or compression of the sinuses by tumors. DST in the cases of intracranial hematoma may also occur after head injury such that depressed skull fractures or skull fractures that cross the sinus obstruct the blood flow in the sinus.

DTS is rare and the signs and symptoms are extremely varied as well as nonspecific, ranging in severity from mild headache to coma and death. We present two cases of DST and review the literature for this condition which has high risk of morbidity and mortality in this report. The first case was a 16 years old boy hospitalized because of history of headache, nausea and repeated vomiting for two day after a motorcycle traffic accident who died at third day of his hospitalization. The second case was an 18 year old girl who had a history of upper respiratory infection and diarrhoea for four days and died several hours after her admission to emergency service. In both cases, DTS was diagnosed at medicolegal autopsy.

PP-074

An Abnormality of Willis Polygon; Aplasia of The Right A1 Segment of The Anterior Cerebral Artery

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Willis Polygon, is an arterial structure in the base of the brain, and is composed by an anastomosis between the right and the left carotid arteries and the vertebral basilar arterial systems. While the anterior communicating artery connects both anterior cerebral arteries to each other; the posterior communicating artery connects the internal carotid artery and the posterior cerebral artery. More variations can be seen in the posterior circulation in this polygon. A complete Willis Polygon, which means that there is no absent component or hypoplasia, is only seen in 20-25 % of the individuals. The most common variation is hypoplasia of one or both posterior communicating arteries and is found in 34 % of the individuals.

The aim of this study is to discuss the coincidental presence of the arterial variations of the Willis Polygon in the autopsies, and to compare the findings with the literature.

This case, a 54 year-old male body, was found in the water and the reason of death was drowning based on the autopsy. The variation of

Willis Polygon was the aplasia of the right A1 segment of the anterior cerebral artery and therefore the absence of the anterior communicating artery. On the other hand, the left A1 segment, which was larger than usual, was branching out of the frontal interhemispheric region and continued its normal path as the A2 segment of the right and the left anterior cerebral arteries.

The forensic medicine is in close relation with all other scientific fields and can serve as a bridge between the scientific fields that appear to be unrelated to each other. Although the primary purpose of an autopsy is to explain the cause of death and help the law enforcement, it also can uncover some findings that can be helpful for other scientific disciplines.

PP-075

Characteristics of the hospitalized forensic cases: A retrospective study

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Background: The study was planned for the purpose of investigation of the forensic cases' characteristics who applied to the emergency service and hospitalized.
Method: Medical documents of the forensic cases who had appealed to the emergency service and hospitalized in Bolu State Hospital and Bolu Gynecology and Child Hospital in Bolu City (Turkey) between 01.01.2007-31.12.2007 were investigated retrospectively. Statistical analysis were realized by using SPSS 15.0 Packet Program and chi squared test.
Results: Total 365 cases were evaluated. Of the cases, 62.7 % (n:229) were male and 37,3 % (n:136) were female. The average age was 36,7± 18 between 1–88. The analysis of the age groups as follows; 49 cases (13, 4 %) were under 18-year-old, whilst 59 cases (16,2 %) were in 18–24, 80 cases (21,9 %) were in 25–34, 64 cases (17,5 %) were in 35–44, 46 cases (12,6 %) were in 45–54, 29 cases (7,9 %) were in 55–64 and 38 cases (10,4 %) were in 65-year-old or older age group. Most frequently seen event was motor vehicle accidents with 184 (50,4 %) cases and 166 cases (%90,2) of them were occured as intra-vehicle accident and the remain cases (n:18–9,8 %) were occured as extra-vehicle cases. Motor vehicle accidents were followed by intoxications (n:79–21,7 %) (62 cases were suicidal drug intoxications), falls (n:45–12,3 %), stab injuries (n:19–5,2 %), occupational accidents (n:17–4,7 %), firearm injuries (n:10–2,7 %), hitting cases (n:10–2,7 %), burn (n:1, 0,3 %). There was a meaningful relationship between the gender and type of the forensic case and between the age groups and type of the forensic case (p:0,00). Motor vehicle accidents, falls and occupational accidents in males and suicidal intoxications in females were mostly seen type of events. Motor vehicle accidents were mostly happened in under 18-year-old and 25–34 age groups whereas suicidal intoxications were mostly occured in 18–24 age group. According to the evaluation of the cases' general condition; it was good in 61,7 % (n:142), moderate in 27,0 % (n:42), worse in 10,9 % (n:25) of the cases. Consciousness was clear in 77,5 % (n:196) of the cases whilst 13,0 % (n:33) cases were unconscious, and 8,7 % (n:22) of them were confused. There wasn't any data about general condition and consciousness in the remaining cases's medical documents.
Conclusion: Injuries of the hospitalized forensic cases' mostly occurred as intra-vehicle traffic accidents, intoxications and falls. Taking precations for prevent occuring this cases and psychiatric supports for the persons who have psychiatric problems will be useful for prevent such events.

PP-076

Assessment of Forensic Reports Prepared By the Department of Forensic Medicine of Gulhane Military Medical Academy between 2006–2011

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Besides preventive and curative duties, physicians are also responsible for legal liabilities such as preparing reports. As they hold a crucial place for victims and suspects in the course of adjudication, these reports must be prepared in line with certain standards. This study aims to present and discuss the epidemiological characteristics of the reports prepared by the Department of Forensic Medicine of Gulhane Military Medical Academy (GMMA).

In this cross-sectional study, reports prepared by the Department of Forensic Medicine of GMMA between 01.01.2006 –12.31.2011 were examined retrospectively. Statistical analysis was performed on epidemiological characteristics of the cases, dates that the events took place, injury sites and data obtained according to injury qualifications defined in clauses 86 and 87 of the Turkish Penal Code (TPC).

The number of forensic reports prepared by Department of Forensic Medicine of GMMA between January 2006 and December 2011 was 2238. Average age of the cases was 24.7±6,8 years (min.=3, max.= 70) and 97.6 % (n=2185) of them were male. 82.5 % (n=1848) of the cases was the group of 20–29 years.

According to the type of the event, injuries in 50 % of the cases were because of battery. Other frequent reasons were firearm injuries (14.7 %; n=330), traffic accidents (12.3 %; n=275) and explosive injuries (9.1 %; n=204).

According to the part of the body, in 1242 cases (55.5 %), the most common sites of injury were head and neck. Skeletal system fractures were detected in 887 cases, and fractures were found to be most frequent in the head and neck site (in 287 cases; 12.8 %).

According to clauses 86 and 87 of TPC, 990 (44.2 %) of the injuries were mild that were requiring a simple medical intervention, 1248 (55.8 %) were not mild, that were requiring more than a simple medical intervention, and 443 (19.8 %) were life threatening. In 19 % (n=425) of the cases, persistent functional weakness or loss of function in one of the organs was observed.

PP-077

Civil capacity in moderate dementia; a case report

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Background: Cognitive impairment, as in dementia, generally affects a person's decision-making capacity. In such conditions older people suffering from early dementia are mostly anticipated to be capable of performing cognitive skills yet they might need to be supported. Because of deteriorated cognitive functions, in severe dementia a guardianship should be initiated for civil-law administration of these individuals. However, evaluating civil and financial capacity in older adults is still controversial, in moderate dementia in particular. Here we aim to discuss the evaluation of civil capacity of moderate dementia cases by presenting a case through its clinical features and treatment approaches.
Case history: Civil capacity of an 83 years old female was asked to be evaluated, by a local Civil Court. The case needed to be evaluated only based on medical records as she died two years ago. In 2006, she was

admitted to a university hospital complaining of amnesia. She was given medications and continuously followed-up with control examinations. Besides used medications and medical follow-up her clinical conditions deteriorated, thereby she was recommended to live in a nursing home. In February 2008, one of her inheritors got a capacity report, from a local health center, stating that she had full cognitive and decision-making capacity; however, she was on medications and her mini-mental test points (14/30) were dramatically low in that period. Two weeks after obtaining the capacity report, her inheritor (niece) possessed her house by selling agreement. In 2010, after her death, other inheritors (nieces) filed a lawsuit against the one possessed house to cancel the selling agreement.

Conclusion: In conclusion, the presented case was decided to have diminished civil and financial capacity in the period of selling process because of decreased mini-mental tests' points, need for increasing dose of medications, antipsychotic medication use because of behavioral disorders indicating further grade of dementia.

In conditions requiring evaluation of civil capacity in moderate dementia cases, by using only medical records; all medical records, particularly those related the capacity-questioned period, should carefully be examined. In addition to the detailed examination of patients suffering from moderate dementia, carefully recorded clinical findings, appropriate evaluation methods will play an important role in evaluating the civil capacity.

PP-078

The Characteristics Of Sexual Abuse Victims Referred For Forensic Psychiatric Examination

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Background: Population data on clinical and demographic characteristics of sexual abuse victims in Turkey is limited. This paper aims to investigate the demographic and abuse characteristics of sexually abused children, adolescents and adults who were referred for psychiatric examination to our psychiatry outpatient clinic from the forensic medicine department. The preliminary results of an ongoing research will be discussed in this presentation.

Method: Fifty-one sexual abuse victims, examined on request by the legal offices between September 2010 and July 2012 at our outpatient psychiatry clinic, were included in the study. The collected data on the features of all cases were analyzed retrospectively.

Results: Ninety-two per cent of all cases were women and 8 % were men. The mean age of the total group was 19.03±6.68. Sixty-five per cent were under the age of 18. Seventy-six per cent were single, 16 % married, 4 % divorced and 4 % widow. Most of the victims were in a low-middle socioeconomical level. The perpetrator's familiarity information was missing for 3 cases. In 10 % of cases, the perpetrator was a family member, in 6 % a relative, in 41 % a familiar person, either a friend or a neighbor, in 18 % a boy friend and in 20 % a stranger. The mean duration between the psychiatric examination and the sexual assault was 146.45±146.97 months. As much as 35 % experienced fondling and 35 % vaginal penetration, while 18 % experienced physical violence, as well. Of all cases, 20 % were diagnosed as acute stress disorder, 18 % as post-traumatic stress disorder, and 24 % as adjustment disorder.

Conclusion: Sexual violence occurs worldwide and affects up to one third of women over a life-time. Although both men and women can be sexually assaulted, women are at greatest risk. Most sexual assaults are committed by someone known to the survivor. Some groups are more vulnerable, including adolescents, survivors of childhood sexual or physical abuse, persons who are disabled, persons with substance abuse problems, sex workers, persons who are poor or homeless, and persons living in prisons and institutions. Sexual assault may result in long-term mental and physical health problems. Psychiatric examination is crucial not only for the healing of the traumatised individual but also for its impact on the legal processes.

PP-079

An unusual non-fatal case of impaling injury

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Impaling injuries are quite unusual. When they do occur, are typically produced by falls and traffic accidents. Occasionally, individuals fall on an object that they are carrying. More commonly, individuals fall or jump from a structure onto a pointed object such as a fence.

We present the case of a 35 years-old man. He was stealing into an apartment when the owners came back home. He tried to escape jumping from the second floor. He fell five meters and had a high energy penetrating transorbital head injury by a metal rod fence. Firefighters cut the fence and he was taken to the emergency department with the foreign body still in his head. At him arrival, GCS score was 6. A CT scan revealed a complex fracture of right orbit floor and roof, zygoma and both frontal sinuses, with an injury of both frontal lobes. Surprisingly right ocular globe was intact, being rod fence passed through the orbit just above it. The patient was immediately operated through a bifrontal craniotomy to repair cranial and facial defects. Rust was found intradurally and wound was carefully debrided. A cranialisation of frontal sinuses by a large galeal flap and a meticolous duroplasty was performed. Orbital and zygoma were repaired by mobilization of bone fragments and plated by microscrews.

In the following weeks, the patient presented a progressive neurological improvement. A postoperative CT scan showed the good reconstruction of cranial and facial defects, with a chronic evolution of frontal lobes injury. Fourty-five days after injury, patient was discharged with a GCS15, with a diplopia due to a paresis of right superior rectus muscle.

Penetrating intracranial injuries caused by metallic foreign bodies are very rare among the civilian population. In literature there are few reported cases and to our knowledge, this is the first report of a high-energy, penetrating brain injury caused by such an object.

PP-080

Case Report: Tattoo mimetizing lower limbs varicosities: a differential diagnosis to be considered?

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Context: It is expected that 35 % of the Brazilian population over 15 years-old have varicose veins. This incidence grows up according to age, affecting 70 % of mans and women who have more than 70 years-old. The lower limb varicose veins are related to human aging and degenerative aspects. Long periods in the orthostatic position with little muscular activity predisposes to venous ingurgitation and vascular dilatation, contributing to the formation of varicosities. Due to the high prevalence, it is common the association between varicose veins and the labor activity. If proved this relationship, the workers would file an occupational lawsuit against the employer. However, some workers are searching for secondary gains.

Case: Male, 41 years-old, gas station attendant. He had an 8-hour work journey, eventually exceeded, and said that after 34 months in this job, he started to feel legs and feet pains, but he did not asked for medical help. In this condition he continued in his profession for 5 months, when he was dismissed. He had no occupational medical follow up. Currently, he claims that the pain persists and remains without medical help until the day of the forensic-medical expertise. In the physical examination was verified a superficial venous plexus of the legs and feet with vessels slightly dilated, easily visible bluish-blackish in color. However, it had not been verified protrusions or dilatations of superficial veins of the lower limbs. It had been noted a tattoo mimetizing varicosities aspects at the medial face of right foot. With the present case, it is intended to warn the existence and similarity of the exogenous skin pigmentation, tattoo, with lower limb varicose veins. This case clearly demonstrates the existence of secondary gain intention against the employer.

PP-081

Epidemiological study of cases of hand injury - Occupational Justice in Brazil

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Introduction: The hand is essential to almost all personal performance, economic and leisure. The human hand has an important evolutionary characteristic relative to other primates and animals, which is an opposite finger to the remaining ones - the "thumb". Therefore, any damage to the human hand, compromises one of the primary characteristics of human evolution. For the human it is essential to perform any work, and statistics show that trauma is the leading cause of disability. Hand injuries have unique characteristics that differentiate them from other lesions. The traumas of the hand present no threat to the lives of individuals, but carry a high functional risk with serious socioeconomic consequences for himself, his family and the whole society.
Objective and methods: To analyze 64 cases of medical-legal evaluation concerning occupational accidents resulting with damage in the human hand, drawing an epidemiological profile, conducted by Dr. Leandro Duarte de Carvalho between the years 2007 to 2010.
Results and conclusion: We analyzed 64 cases of individuals between 17 and 59 years, among whom 86 % were male and 14 % female. Lesions analyzed, 39 % occurred in the right hand (4 also reached portions of the upper limb) and 61 % in the left hand (7 also affected portions of the upper limb). Among those analyzed, 78 % received social security benefits. Traumatic injuries of the hand is a very serious problem for the victim, victim´s family, company and security-social institution, since the injuries of the hand lead to both physical and psychological changes. The lesions studied include finger amputation, crushing, fractures and cuts in the distal portion of the upper limbs. The accident at work remains a serious problem and often results in personal injuries or functional disorders leading to permanent or temporary reduction of working capacity.

PP-082

Case-report: chromium poisoning and damage to upper respiratory tract

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Introduction: Chromium is a metal used especially in metallurgy, in processes called electrodeposition. Its excess can cause dermatitis, ulcers, kidney and liver. In this case report we present LSB, 40, who worked as painter. He bears nasal septum perforation and chronic vasomotor (ICD-10 T56.2 - Chromium and its compounds) for probable exposure to chemicals and should stay away from professional activities that expose these products (mainly chromium). Chronic rhinitis ulcer may occur through local action of aerosol irritant, producing a chronic inflammatory process characterized clinically by bloody rhinorrhea, burning and pain in the nostrils.
Objective: To report the case of litigation forensic labor of a professional labor victim of chromium poisoning, showing damage to the upper respiratory tract.
Results and conclusion: The diagnosis of chronic ulcerated rhinitis is essentially rhinoscopy. Edema, ulceration, crusting and eventually bleeding may also be observed. Ulcers may progress to necrosis and perforation of the nasal septum, situation very well known among workers exposed to chromium. It is relatively difficult to establish criteria for evaluating disability caused by the condition, but it is important to note that the person may develop parosmia (abnormal smell) or anosmia residual, which may cause significant impact on workers, both in their defense mechanisms (odor substances toxic chemicals or dangerous), and on their ability to work, depending on their job. The disordered breathing by nasal stenosis also constitutes an important injury to the patient's life. In exposed workers, excluding other underlying causes, chronic rhinitis must be classified in Group I of Schilling Classification. In other words, diseases where the "work" or "occupation" are necessary causes. Without them, it is unlikely that workers develop the disease, with clinical features described. It is often described in workers exposed to chromium.

PP-083

Evaluation of the Sexual Assault Cases

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Introduction: Sex crimes remain an important problem all over the world. In this study, we aimed to investigate the sociodemographic features of the victims, assailant-victim relationships and sexual assault findings.
Material-methods: A total of 324 sexual assault victims presented and examined in Kahramanmaras Sutcu Imam University Medical Faculty, Department of Forensic Medicine between January 2007 and December 2010 were included in the study. A survey was applied to the victims through face to face interviews. In addition, examination findings were included in the study and results of the analysis were discussed in the light of the literature.
Results: Of the victims, 268 (82.7 %) were female and 56 (17.3 %) were male. Mean age of the victims was 16.78±7.16 years. In all cases, type of the assault was as following; vaginal penetration in 160 (49.4 %), anal penetration in 117 (36.1 %), oral penetration with penis in 7 (2,2 %) and in form of kissing, fondling, touching the sex organ and rubbing the sex organ in 60 (18.5 %) of the cases. Of the assaults, 149 (46 %) were found to take place in the house of the assailants and 49 (15.1 %) in the house of the victims. Of all the cases, 289 (89.2 %) victims knew the assailant, 103 (31.8 %) of the victims were students, 76 (23.5 %) were teenage girl, 50 (15.4) were housewife, 23 (7.1 %) were unemployed and 21 (6.5 %) of the subjects were employees. Of 139 cases, genital injury alone was found in 85 (26.3 %) and anal injury in 54 (16.7 %) of the subjects.
Conclusion: On the contrary to the previous studies, sexual assaults were found to occur mostly in the house of the assailants and incidence involving anal trauma were found to be higher.

PP-084

Suicide of Four Siblings by Hanging

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Introduction: Mass suicide is defined as the members of the groups with social and cultural nature to commit suicide at the same time. Objective of this study was to present the cases of four siblings who killed themselves by hanging at the same time and to compare the case with the literature.
Case: Four siblings were found hung by the person who was working for their father in a vineyard house. The house was a duplex apartment surrounded by a wall and wire fence. The balcony and rooms of the house were seen to be untidy with hulls, rubbish and broken pieces of glass everywhere. Four siblings were found hung with the same thick rope just at the entrance of the ground balcony, next to the entrance door, next to the toilet wall separate from the house and in the garden shed. The corpses was belonging to the siblings aged 26, 27, 30 and 31. Two of them were female and the others were male. At the autopsy all the siblings were defined to be dead from mechanical asphyxia due to hanging. Alcohol was found in the blood of three siblings and in the liquid in the pet bottles on the ground. No alcohol was detected in the blood of one sibling. All siblings were found to commit suicide at the same period of time and three of them to take alcohol before the suicide.

When familial structure and social characteristics of the siblings were examined; it was found that the children had a poor relationship with their father and grown too dependent on their mother. They had difficulty to adaptation to the environment, had few friends and unemployed. It was stated that they had got depressed after the death of their mother, said to the persons in their environment "they could not live without their mother" and had committed suicide.
Conclusion: In this study, we presented the case of four siblings who committed suicide at the same time which has not been previously reported in the literature. Suicidal act is an action with bio-psycho-social aspects. Besides psychological and environmental factors, investigation of the biological aspects is important in etiology of the suicide, which will be useful for development of the preventive public health measures.

PP-085

Effects of soil on decomposition

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The effects of soil on decomposition, and estimation of burial time period regarding this, has been the focus of attention of many researchers working in the field of forensic soil science. Pathogens that affect decay is controlled their proliferation and bacterias forming the normal body flora together with death. Decay in the buried corpses more slowly than in the open-air and water environments. Decay under the ground; varies in proportion as well as climatic factors, Eh, pH, soil texture and mineralogical content of soil.

In this study 45 corpses, which were exhumed from environments with different physical features each, were studied. Certain time of death, burial and disinterment periods of the corpses were well known. In the fields related to burial land, it is tried to explain the event mineralogical, chemical and physical examinations of the body caused by deterioration of corpses (decomposition) event, autolysis and decay (putrefication). This study also includes the first data of the project on buried time determination and the effects on decay of soil.

Firstly, in this study; the soil characteristics of total 45 cases, which are divided into groups of basic rock types according to the geological structure of the region, were determined base properties of environments faster of decay. If Fe, Pb, Zn, S and sulfide minerals are found in the content of soil, quick decomposition and decay of corpse occurs; otherwise, in the locations where swellable clays such as montmorillonite and smectite is contact with water, corpses were preserved for a long time because of isolation from environment.

PP-086

Post-traumatic Stress Disorder among Anti-terrorism Veterans, in Turkey

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Introduction: Terorism which is considered in the concept of trauma is a form of war designed as to have the highest psychological impact on the massess. Fight against terorism is continued for almost thirty years in Turkey. Objective of this study was to respectively examine the health commission reports of the handicapped individuals during fight against terrorism and in terms of psychiatric diagnoses, in particular.
Material-methods: In this study, health commission reports (n:92) of the diseabled people prepared by Ankara Atatürk Training and Reseach Hospital Health Care Commision between 01/01/2007 and 01/01/2011were retrospectively examined, and psychiatric diagnoses and other injuries of the patients injured during the fight with terorism were evaluated.
Results: Mean age of the subjects included in the study was 30.67± 5.94. Majority of cases were injured as a result of mine explosion by a rate of 63 %. There was eye lost (single/double) in 11 (12 %) of the cases, while amputation in one or more extremity was identified in 58 (63 %) of the subjects. On the psychiatric examinations, 20 (21.7 %) of the subjects were diagnosed with a psychiatric disease, while post-traumatic disorder was found in 6 and no psychopathology was mentioned in 72 (78.3) of subjects. As results of the reports, 53.18 % ±21.27 of the subjects were stated to be handicapped. A positive and significant correlation (correlation coefficient: 0.25) was found between the subjects with a psychiatric disorder and the disability rate ($p=0.16$).
Conclusion: The disability resulting from the terrorist attacks leads to significant physical and mental deterioration. Consideration of post-traumatic stress disorder is extremely important both in treatment planning and preparing of the health commission reports in the cases exposed to the war trauma.

PP-087

Evaluation Of Forensic Reports Prepared By Emergency Services Within The Frame Of Turkish Penal Code

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Introduction: Preparation of forensic reports following the examinations of forensic cases is among the legal responsibilities of physicians. Several guidelines have been published to guide the physicians for preparing these reports. In this study we aimed to investigate the forensic reports prepared by emergency services in light of the legislations.
Material-methods: In this study, general forensic examination reports and hospital records of 100 patients admitted to Emergency Department of Ankara Atatürk Training and Research Hospital were examined.
Results: Mean age of the patients was 36; 78 of the cases were male and 22 female. On medical evaluation of the patients; a great majority of cases (68 %) had no consultation and most common consultations were demanded from orthopedics and traumatology clinic. On examination of the cases according to the causes of forensic reporting, the most common presentation was found to be due to traffic accidents with 43 cases. On examination of the cases in terms of whether alcohol abuses and injuries were resolved with basic medical interventions, 72 of them had not been analyzed for alcohol use and 27 had examined for alcohol. In 87 of the cases, issue of whether the damage occurred can be resolved with basic medical interventions had not been stated at the report, while injuries could be resolved with basic medical interventions in 8 cases and could not resolved in 5 cases. Out of all reports, 79 were preliminary forensic reports, 9 were final reports and 12 had no statement regarding to be preliminary or final.
Conclusion: Forensic case notifications and forensic reporting are medical tasks as well as legal responsibility of a physician. Issue of the approach by a physician to the forensic cases and procedures must take part both in medical education and postgraduate training.

PP-088

A series of Suicidal Attempt cases; Data from Ankara

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Introduction: Suicidal behavior, as an intentional act aiming to end one's life, is a phenomenon having psychiatric, forensic medicine, public health as well as economical, cultural, social and legal aspects and consequences.

In this study, we aimed to define demographic and sociocultural factors causing to suicide attempt and results of the attempts in the cases presented to the emergency department due to suicide attempt.
Material-methods: In this study, records of 245 cases presented to the emergency department of Atatürk Training and Research Hospital due to suicide attempt between 31/12/2009 and 01/01/2011 were retrospectively studied. Socio-demographic data of cases were investigated. For the analysis of data, descriptive statistics and Pearson chi-square test were used.
Results: Of 245 patients included in the study, 66 (26.9 %) were male and 179 (73.1 %) were female with a mean age of 28.1± 9.9. On analysis of educational status; 49 (20 %) were primary, 93 (26.5 %) high school and 65 (26.5 %) were college graduates. Of the patients, 139 (56.7 %) were single.

The most frequent cause of the suicide attempt was marital discord (n:72; 29.4 %) followed by the problems with spouse (n:55; 22.4 %) and psychiatric disorders (n:45; 18.4 %). Economical factors among the causes of suicide in males were found to be significantly higher than in females ($P<0.001$).

On interrogation of previous suicidal attempts, 56 (22.8 %) cases stated that they had attempted suicide one or more times. Thirty-eight (15.5 %) of the cases stated that their relatives also had attempted suicide. The most frequently used method of suicide was medical drug intake (n:220; 90.2 %). Percentage of the men who attempt suicide with a sharp and pointed objects was significantly higher than in women ($P<0.001$). Fifty-one (20.8 %) of the cases had diagnosed with any psychiatric disorder before the suicide attempt.

Of the cases, 35 (14.2 %) stated that they was on psicotic medication in the period of suicide. Sixty-six (26.9 %) of the patients were consulted in psychiatry department. However, only 26 of the cases (10.6 %) presented to the psychiatry clinic later.
Conclusion: Being female, young aged, single, existence of previous suicidal attempt, marital discord and psychiatric disorder were found to be suicidal risk factors, in this study. In this context, patients with psychiatric disorders should carefully followed-up since these disorders are among the etiology of suicidal attempts.

PP-089

Evaluation of presidential amnesty cases in Forensic Medicine practice

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According to article 104/2-b of our valid constitution, president of republic has the authority of diminishing or canceling the penalty of convicts due to continual disease, disability or senescence.In reference to the current regulations, convict should attend to Presidency personally. After that, authorized prosecutors offices want health committees of hospitals to examine and report the situation of convict, then this report sent to Council of Forensic Medicine through the prosecutors' offices to arrange a report. If continual disease, disability or senescence can be accepted, convict can derive benefit from the article 104/2-b by the decree which is signed by the Minister of Justice, Prime Minister and President.

In 2011, totally 467 case appealed to 3rd Specialization Board of Council of Forensic Medicine, to benefit by the presidential amnesty and by our board 14 were evaluated in this context.

We want to present four cases to show the approach of 3rd Specialization Board of Council of Forensic Medicine. First two cases are the examples of that we were of the opinion that the convict has continual disease, disability or senescence. First one is 42 years old male, he has high degree B –cell immunolymphoblastic lymphoma

since July 2009, he has chemotheraphy but it relapses, we found common body pains, lymadenopathies on the neck and axilla, considering the disease is stage IV, LDH level is high and ECOG scor is III it is thought that life expectancy is approximately 1–2 years. Next one is 91 years old male, he has right keratopathy, pseudophacia, left total calcific cornea opacity, paraparesis, polineuropathy diagnoses; in our examination we found mild-moderate dementia.

Other two cases are chosen to show the cases that Presidental amnesty is not appropriate. First one is 30 years old male, he has acute lymphoblastic leukemia diagnosis since July 2011, he has chemotherapy treatment and after treatment he has total remission, second case is 72 years old male, he has hypertension, Type II Diabetes Mellitus, chronic obstructive pulmonary disease due to our examination his general situation was moderate and TA was 200/100 mmHg.

As a result; if the mental faculties disappeared, treatment is over and due to medical records no response to treatment, there is an extreme disability that doesn't let convict to live on his/her own or death is an expectable result for people we evaluate this situations in terms of this context.

PP-090

Medicolegal Examination of Acut Thinner Ingestion: A Case Report

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Background: Thinner, commonly used for removing household paints removing, and contains 60-70 % toluen, 20-25 % n-butilasetat ve 10-15 % ethanol. Although, its physical features as a clear, colorless liquid with a sweet, pungent odor makes it a potential agent for household accidents and an ingestible poison especially for infants. Symptoms of acute ingestion of thinner are fewer, irritability, loss of consciousness, nausea, upper gastrointestinal injury, renal failure, polyneuropathy, chemical pneumonia, disrhythmia, methemoglobinemia, and sudden death. Acute thinner intoxication is unusual and its clinical effects after ingestion are relatively unknown. We will discuss about diffucilities of medicolegal examinations after thinner ingestion.
Case: A 3-year-old male ingested orally a unknown quantity of toluene. After ingestion he had respiratory distress and cough then he was vomitted by his father at home. First he went to a state hospital and observed about 2 hours but we couldn't reach his medical reports from this hospital. Then, he came to our hospital emergency service about 30 minutes later. He was lethargic and vital findings were stabilized. Blood chemistries of liver and renal function were normal. A chest X-ray film, taken approximately 3 h after ingestion, revealed parancimal consolidated areas at upper and basal lobes of right lung. He observed about 35 hours and then he discharged from hospital.

5 days later he came our departmant for medicolegal examination but the reports of patient was deficient. We wanted consultations from pediatrics, pediatric surgery. But they recommended that they have nothing to do right now.
Conclusion: We will discuss about diffucilties of unsuffucient medical records while performing medicolegal examiniation.

PP-091

Evaluation of the term "Permanent Facial Change" in terms of Turkish Penal Code: Four cases

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According to the laws in our country, scars within the facial region resulting from any type of trauma are accepted as "aggravating circumstance". If a scar in facial region is easily visible when examining in daylight or in a well-lighted room, with a talking distance (about 1–2 meters) then it is named as "constant (fixed) scar"; if the natural appearance of the face is so damaged that even the ones who are familiar to him/her feel hesitation in recognizing then it is named as "permanent facial change". Heavy burning and application of nitric acid to the face are some examples for the permanent facial damage.

We retrospectively analyzed all the files of Second Specialization Board of The Council of Forensic Medicine between the years of 2005 and 2009 and four cases of "permanent facial change" were detected. Of the four cases, 3 were male (75 %) and 1 was female (25 %). The cause of the severe damage was flame burns in 2 cases and chemical burns in 2 other cases.

PP-092

Management of patient complaints and medicolegal consultation at VKF American Hospital

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In July 2001, Patient Rights Office (PRO) was established authorized by the Chief of Medical Office. PRO is working, taking into consideration the terms of 1998 Patients' Rights Legislation, to create a new health culture. PRO process has been designed on ISO, JCI ve EFQM requirements, monitoring and fulfilling their standards. PRO has been supported by medicolegal consultations, provided on a regular basis since 2006. Data obtained from patient complaints has been provided to service more efficiently on issues such as risk management, medicolegal consultations. In this study, it is aimed to share the experiences of VKF American Hospital which has the longest history in Turkey on the management of patient complaints.

Data, obtained from the cases managed by the PRO at American Hospital between the years 2001–2011, is evaluated. The data obtained from all applications has been shown on a yearly basis and analyzed separately. Cases with claim of malpractice were also evaluated according to the complaint category.

Applications are recorded under eight main headings. Since 2001, the number of applied cases is 1873, 3236 of which (%39) organizational problems, 3230 of which (%39) care and treatment service, 1572 of which (%19) attitudes and behavior, 1326 of which (%16) situations related to billing, 676 of which (%8) physical conditions, 165 of which (%2) food service, 95 of which (%1) extra services and 51 of which (%1) is related to cleaning services.

62 cases were carried to courts against the hospital related to medical processes. Distribution of cases by years is as follows: 2001–2, 2002–4, 2003–4, 2004–8, 2005–7, 2006–5, 2007–4, 2008–9, 2009–5, 2010–7, 2011–5.

86 complaints were proposed as amendment by PRO and included procedural / systematic, remedial action plan for the hospital.

Patients can help promote safety and reduce risk in several ways. One is to make known their concerns about their health care experiences because complaints might suggest unsafe systems and providers. The complaints could be used more effectively in health care and be regarded as important evidence when working with quality improvement. To systematically use patient stories as a reflective tool in education and supervision could be one way to improve communication and bring new understanding about the patient's perspective in health care. Besides, complaints from patients were the most common reason for doctors seeking medicolegal advice. We conclude that patient complaints can

be an important force for promoting safety for both medical staff and patient.

PP-093

Hand Tendon Injuries

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Introduction: Our hands is the most active organ which we use in daily life. But is the most injured organ after trauma due to too little preservation. Hand injuries, Although they are not usually cause life-threatening conditions, has an important place in the practice of forensic medicine.
Materials-methods: Hand tendon injuries detected 48 cases, forensic reports were evaluated retrospectively.
Results: The age of the patients ranged between 4 to 73 years and the mean age was 30.75±… years. Most cases were accumulated in the 18–27 age group where it was followed by 28–37 age group. The months hand injuries most frequently occurred wereApril- May with 14 cases and October with 7 cases. Penetrating injuries were the most frequent cause of the hand tendon injuries with 22 cases and followed by blunt-crushing injuries with 15 cases. 10 cases had extensor tendon and 13 cases had flexor tendon injuries. In 23 cases injuries of the both tendons had been detected.

PP-094

Thoracic Traumatic Deaths in Izmir, Turkey

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Aim: Injuries are the largest source of premature mortality and the leading cause of death among people ages 1 to 44. By focusing prevention strategies and implementing integrated surveillance programs, it will be probable to reduce deaths and disabilities occurred due to injuries. The purpose of current study was to identify the proportion, origin and cause of thoracic traumatic deaths and its pathologic consequences.
Material-method: We conducted a retrospective study of autopsy cases at Izmir Branch of the Council of Forensic Medicine to describe the characteristics of one hundred eighty nine thoracic traumatic death cases between April 2011 and December 2011.
Result: The distributions of the cases according to gender and age were as follows; males 81.5 % (n=154, mean age 42.9±17.8), females 18.5 % (n=35, mean age 41.6 ±17.4). The causes of thoracic traumatic deaths were traffic accidents (48.7 %), gunshot wounds (18 %), sharp force (incised or stab) wounds (14.8 %) and fall from high (11.1 %), work accidents (2.6 %), fall from low (2.6 %) and aircraft accidents (1.6 %). Rib fractures had seen more frequently in blunt traumatic deaths (OR=42.38, p<0,001) and gunshot deaths (OR=14.00, p< 0,001) than sharp force deaths. Cardiac laceration had seen more frequently in gunshot deaths (OR=12.88, p<0,001) and sharp force deaths (OR=8.29, p<0,001) than blunt traumatic deaths.
Conclusion: It is concluded from the current study that death occurred due to thoracic trauma was an important problem causing premature mortality and morbidity in our region. A computer based public health surveillance system for identifying the causes of these injuries is needed. Also new prevention strategies to reduce the incidence of traffic accidents and violent injuries must be developed to prevent thoracic traumatic deaths.

PP-095

Comparing The Handwritings Of Healthy Controlled Group Associated Wıth Schizophrenia

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This study has been conducted to see the difference between the handwritings of schizophreniac patients and healthy controlled group. 29 hospitalized schizophrenic patients and a controlled group of 29 healthy people, appropriate with regard to their age, gender, education and the hand used, were included in the study.

204 handwriting samples written on A4 papers, taken from 58 cases, 29 of which were taken from hospitalized schizophrenic patients and 29 from healthy controlled group were analyzed. 102 of handwriting samples are free texts written on A4 papers, and the other 102 are written forms of a previously chosen paragraph.

The first handwritings of 29 schizophrenic patients, taken just after they were hospitalized, were compared to those of controlled group, chosen from healthy people, according to 44 parameters.

Compared with those of healthy controlled group, the handwritings of schizophrenic patients demonstrates a meaningful bigger size in length and width, and lower pressure. In addititon, omission in punctuation, scratches on letters, missing letters, and extra words were observed in the writings of these patients. Besides, meaningful differences in the repetitive drawings of letters were seen in the writings of the patients compared to those of healthy group. Schizophrenic patients have less meaningul and less coherent sentences than controlled group.

These differences, observed in the handwritings of schizophrenic patients, are thought to have been resulted from the effects of the illness itself and the medication used on the neurophysiologic and motor system as well as positive and negative symptoms of schizophrenia.

PP-096

Traumatic Tattoo; A Case Report

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Background: Traumatic tattoo occurs as a permanent mark by mechanical penetration of foreign bodies into the skin as a result of delayed effective and earlier treatments. The foreign bodies penetrate into the skin may be carbon particules, gun powder, soil and asphalt. These tattoos can be appeared by variable reasons as: traffic accidents, falls from height, firearm and fireworks explosions and puncture of pencil or pen. The most common places are face, hands and eyes. Best and effective way of preventing penetrating injuries to transform to a traumatic tattoo is an effective treatment in earlier period. The main objective of this study is to provide a better recognition of traumatic tattoo that result a permanent mark on face.
Case: 20-year-old woman admitted to an hospital after a motor vehicle accident. Deep laceration from lateral side of the lower right eyelid reaching to the glabella and abrasions on the upper and lower right eyelid were observed in the first examination. After 1,5 year peirod of

time, 4 cm long wide stigma was determined on the right lower eyelid starting from inner side of nasal radix to the connection border of lower eyelid to the cheek dermis, 4 cm long greenish irregular stigma below the right eyelid and a greenish stigma on the subciliar right eyelid. All these findings are diagnosed as traumatic tattoos caused by the traffic accident.

Conclusion: In the countries' laws, penalty imposed to an injuring crime is judged according to the degree of the damage which affects an individual's life. A permanent mark on face gives damage to an individual by affecting his/her psychology and social life. So causing a permanent mark on face should be punished more. Doctors examining the patient for forensic purpose have to know the mechanism involved in wound formation and wound healing. They have to recognize and differantiate different types of wounds such as traumatic tattoos, together with earlier skin lesions occured naturally, traumatically or by a disease.

PP-097

Changes Appeared On The Hanwrittings Of Schizophrenic Patients After The Treatment

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This study has been conducted to see the changes appeared on the handwritings of schizophrenic patients after the treatment they got.

In the study, 102 handwritngs samples of 29 schizophrenic patients written on A4 papers were analyzed. While 51 of these samples are free texts written on A4 papers, the other 51 are written forms of previously determined paragraphs.

Changes, appeared on the handwritings of these hospitalized patients after the treatment, were analyzed according to 43 parameters.

When these changes are analyzed, it can be seen that there is a meaningful decresease in the frequency of omitting words, punctuation, and letters, and correcting the letters.

Moreover, there is a meaningful decrease in the length and width of the letters, word omitting frequency, and leaned lines. In addition to this, there is an increase in the number of repetitive letter drawings, mistakes in capitalization, and extra words after the treatment.

These changes appeared on the handwritings of schizophrenic patients are thought to have been resulted from the effects of the illness itself and the medication used on the neurophysiologic and motor system as well as positive and negative symptoms of schizophrenia.

PP-098

Evaluation of Cognitive Functions in Elderly Patients Composed Forensic Report

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Introduction: The number of elderly cases who required forensic evaluation is gradually increasing in parallel with the increase in visits of geriatric population to the hospital and emergency department in the community. In this study it is aimed to research the contribution of cognitive functions to judicial review process in elderly patients admitted to emergency service and have forensic characteristic.

Methods: The study data were obtained with the reassesment of cases composed forensic report who is included in a theses entitled "the evaluation of mental status change with six-item screening test in elderly patients who applied to the emergency service and the comparison of the relationship between complaints of the applicant and final diagnosis in these patients".

Results: The cases over 65 years old who applied to the GATA Emergency Department between 2009–2011 years were included in this study. Six-item screening test (Six Item Screener) was used in assesment of cognitive functions. It was observed that the forensic report was composed in 26 of 755 cases (3.4 %) who included in theses study. The defect was detected in cognitive function in 6 of (23.07 %) above mentioned 26 cases in analysis of forensic report composedcases. Similarly, the cognitive function failure was detected in 198 of other cases included in study but without forensic.

Discussion: The patient's statement is preferential in information about how the event takes place, presenting symptoms, anamnesis and taking history. But, mental functions deteriorate depending on physiopathological changes caused by aging; and the statements of persons can appear a confounding factor in clarification of forensic events in some cases. For this reason, it is thought that the routinely assesment of mental functions with objective measurement tests is contribute to process in forensic evaluation of elderly patients.

PP-099

May Risperidone/Paliperidone blood concentration ratio predict the phenotype of CYP2D6 enzyme?

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Background: CYP2D6 enzyme encoded by the CYP2D6gene is the principal enzyme for the metabolism of risperidone to its major metabolite of paliperidone (9OH-risperidone). Certain CYP2D6 mutations impair or abolish enzyme activity, resulting in reduced metabolism of risperidone and high plasma risperidone concentration even at low doses. CYP2D6 genotyping has been proposed as a clinical laboratory method for predicting plasma concentration of risperidone and other antipsychotics or antidepressant medication.

Aim: The aim of the study was to determine the CYP2D6*3 and *4 genotyping of psychotic patients and also to determine the risperidon and paliperidon levels in blood.

Materials-methods: Subjects were 17 patients recruited from the psychiatric inpatient units of Cerrahpasa Medical Faculty, Istanbul University. All patients provided written informed consent. Blood risperidone and paliperidone concentrations were measured by Liquid Chromatography - Tandem Mass Spectrometry method. CYP2D6*3 and *4 alleles were determined by Real-Time-Polymerase Chain Reaction.

Results: Only one patient was found as poor metabolizer for CYP2D6*4 (*4/*4), three patients were found intermediate metabolizers (*4/wt) and other 13 were found extensive metabolizers (wt/wt). Retention times of risperidon and paliperidon were found 1,841 min and 1,767 min respectively. Calibrations of risperidon and paliperidon were linear within the selected range of 0,5-100 ng/mL in blood (r>0,999), Limit of Detection and Limit of Quantification were found 0,006 and 0,18 ng/mL respectively for risperidone; 0,019 and 0,063 ng/mL for paliperidone. Recoveries were found from 100,8 % to 105.5 % in different concentrations with minimum six replicates of each point. According to the genotyping and drug monitoring results; RSP/PLP ratios of poor and intermediated metabolizers were higher than extensive metabolizers.

Conclusion: Subjects carrying alleles encoding impaired CYP2D6 enzyme had significantly greater Risperidone concentrations in blood.

Results demonstrate that CYP2D6 genotyping can be used to predict blood risperidone concentration despite advanced patients.

PP-100

Predicting aggression with the Reading the Mind in the Eyes Test

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Theory of Mind(ToM) also referred as mind reading, mentalising or social intelligence is the ability of identifying mental state of others. Deficits in this process can lead to maladjusted social behavior and aggressive or criminal behavior. There have been suggestions that ToM is disrupted among individuals with psychopathy mainly characterized with lack of empathy and inability to identify of feelings and needs of others as well as behavioral elements such as antisocial and criminal behavior. The "Reading the Mind in the Eyes Test(RMET)" is one of the most widely used tasks for examining the ToM. The aim of this study is examining the relationship between ToM disabilities, psychopathy and agression.

Methods: 40 male subjects with diagnosis of Antisocial Personality Disorder(APD), without any comorbid neurologic conditions, assessed by a semi-structured questionnaire form, SCID-II, Psychopathy Checklist-Revised(PCL-R), Aggression Questionnaire (AQ) and the Turkish version of the RMET. Subjects with APD diagnosis divided into two groups as 'psychopathic' and 'non-psychopathic' group by using PCL-R scores. 30 point was used as cut point for psychopathy diagnosis regarding previous studies

Results: Psychopathic group(n=15) showed significantly worse performance($p<0,001$) on the RMET than the nonpsychopathic group(n=25). RMET and aggression scores correlated significantly($p<0,05$) within the subjects with APD.

Conclusion: Contrary to the previous studies revealing the absence of ToM impairment for psychopathy formation, worse RMET performances of the psychopathic group shows us that individuals with psychopathy can not identify of others mental state which can cause subsequently aggression. RMET can be used for assessing the aggression within the forensic population. Effects of ToM disabilities on formation of psychopathy and aggression should be investigated in the larger samples.

PP-101

Risk factors for violent offences

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Introduction: Aggression and violence which can cause death, disease and morbidity mostly related to antisocial personality disorder and psychopathy that is of particular concern to the criminal justice system and to the general public. Causes of violence are the result of complex interactions between genetic/biological factors and social/environmental factors. Differentiation of violent offences from non-violent offences may help us to understand the aetiologies of violence and to develop strategies to cope with violence. The purpose of this study was to compare violent offenders with non-violent offenders on demographic and criminal variables.

Methods: 100 male subjects who admitted to the general out-patients unit of the Department of Psychiatry and forensic patient diagnosed with Antisocial Personality Disorder according to DSM-IV without any comorbid neurologic diseases included the study. All the patients assessed by semi-structured questionnaire including data on onset age of delinquent behavior, age of first conviction, number of prior convictions, and frequency of delinquency in the past. Aggression Questionnaire(AQ) and Psychopathy Checklist-Revised(PCL-R) data were collected. Subjects divided into two group as 'violent offender group' and 'non-violent offender group'according to interview with subjects and data obtained from legal documents and previous records of offences committed by the subjects. Offences including especially murder, rape and assault defined as violent, other offences including robbery, burglary defined as less or non-violent.

Results: Violent offender group(n=55) significantly differed from non-violent offender group(n=45) whith lower education level($p=0,006$), unemployment status($p=0,023$), lower residential status($p=0,038$) experiencing criminality at earlier age($p=0,000$), higher number of prior convictions(0,000), history of parental mental health problems($p=0,035$), higher rates and frequencies of previous self injuries behavior($p=0,000$), higher rates of substance abuse($p=0,009$) higher AQ scores($p=0,003$) and PCL-R scores($p=0,000$)

Conclusion: This results showed us that violent offender group has under the greater risk with lower residential and education level, unemployment status, experiencing criminality, substance and self injuries behavior at earlier age. To establish crime prevention and rehabilitation programs we should use these results as risk factors to be improved and should target rehabilitating specifically the young offenders.

DOMESTIC VIOLENCE

PP-102

Poverty and domestic violence in the Transkei region of South Africa: Case Reports

Banwari Lal Meel
Banwari L. Meel

Domestic violence is a major contributor to physical, mental and social ill-health of women. Poverty is directly or indirectly linked to violence. Despite the fact that a large number of women reside in rural areas like the Transkei, and domestic violence statistics are high in South Africa, there is sparse literature on domestic violence in rural communities. The purpose of this report is to highlight the problem of domestic violence in this Xhosa community of the Eastern Cape.

Emotion abuse and physical assault often result in depression which may lead to suicide. Abused women often present in hospital for their psychosomatic health problems which are manifested by this repetitive cycle of violence. On many occasions, suspicion of sexual infidelity by the woman is a cause for this abuse. Male abusers are often either alcoholic or dependent on some drugs, or both. Children from abusive homes suffer emotionally, if not always physically, and their performance often deteriorates both in academic and social spheres.

In this paper, twenty case reports, with their history, physical findings and interpretation, are discussed.

PP-103

Intimate partner violence in the region of Coimbra (Portugal). A 7 year-long analysis - regarding a case

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Intimate partner violence is a phenomenon that has been assuming major proportions throughout the world and that has only been reported since the 60's/70's by the feminist movements. It consists of any behavior, conduct or omission that leads to physical, sexual, mental or economical damage to the spouse or former spouse, or to a person with whom the subject maintains or has maintained a similar relationship to those of spouses, even without cohabitation.

The United Nations have identified this has a global problem, since it has been practiced throughout the ages in various countries with distinct cultural and geographic characteristics. According to the World Health Organization, between 10 % to 34 % of all the women in the world have been physically abused by their partners.

There is an urgent need to launch global coordinated efforts to prevent this unnecessary tragedy, by establishing the similarities between this and other conjunctures, through quantitative and comparative methods.

The authors hereby present a Criminal Law retrospective study of all body-damage evaluation exams, conducted between January 2005 and December 2011, of which 9347 concerned physical abuse. Of these, 2263 (24.21 %) referred to intimate partner violence victims.

Several variables were established, in order to ascertain the victims profile and the circumstances of these aggressions. Another intention was to compare the obtained sample with the current national and also some European standards.

The authors also present the case of a 38 year old female individual, kidnap victim and attempted murder, perpetrated by a former partner.

There has been a percentual increase in this kind of violent behavior, between the years 2005 and 2011, and also a similar increase regarding male victims.

It has been verified that the victim is typically a female, between 25 and 40 years of age, married and with a profession that requires a basic education degree.

Most lesions have resulted from blunt trauma, having caused temporary damage to 63.85 % of the victims, of which 47.65 % resorted to medical assistance.

The justice system must intervene and take appropriate legal measures, to assure that the victim won´t replicate his/hers traumatic experience, and guarantee their protection, before, during and after the trial.

Forensic medicine is thus challenged with ever more complex demands regarding probative scientific activity, having the responsibility of not only diagnosing the cases but also contributing to eradicate such violent behaviors, by providing evidence for the administration of Justice.

PP-104

Not Death Resulted Cord Suffocating Case Caused by Domestic Violence

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Domestic violence, primarily against the spouse and to all family individuals is a frequent communal problem in all over the world as well as in our country. Our case subject to her brother's suffocation attempt with a tie because of her peculiar social life, her brother tried to string up her by taking up the tie, she had a temporary blackout of consciousness, taken to a hospital by her parents whom intervened the violent act, in her first physical examination it is determined that she was conscious, oriented-cooperative, hyperemic erosion defined in her neck and sent home afterwards. The case having a juridical character, sent to 2nd Speciality Board to issue a report one day after the occurrence. In physical examination; dermabrasion seen in compliance with telem on the neck, lesion starting from left bottom of mandibula broadening to the bottom front under larynx, slightly ascending and rising to the surface ends in right nucha in scalp and it's observed that it's partially crusted, except this diagnosis on the sternum 1 cm 1 unit and 0,5 cm 2 units dermabrasion observed which the person claims occurred during the suffocation attempt, except having difficulties of swallowing and neck moves, hoarseness complaints, there are no other physical and psychological diagnosis appointed. The diagnosis assessed by Otorhinolaryngologic Diseases and it is observed that oropharynx and oral cavity is natural, in endoscopic larynx examination; bilateral vocal cord is seen as active and respiration passage is open, traumatic osseus pathology not observed during cervical tomography. This case is worth submitting due to the existence of social cultural elements to be the reasons of suffocation attempt, the appearance of the cord sequela surronds the neck and in spite of blackout consciousness, not any neurologic sequel diagnosis developed.

PP-105

Intimate Partners Violence: An Italian Investigation

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Background: In 2007, the Statistics Institute of the Italian Government (ISTAT) conducted an investigation of a vast sample of women representative of the female universe, demonstrating that violence, both physical and psychological, perpetrated against the woman is a common phenomenon, even if it tends to be kept dark. Approximately 31.9 % of women suffer at least one episode of physical, sexual or psychological violence during the course of their lives.
Method: Despite the heavy implications of this high figure, the Istat data suggest that only a small percentage (18 %) of the women interviewed seemed to regard the violence they suffered as a true crime. In fact, only a very small number of cases of rape or violence (6.7 %) are reported to the Police and, moreover, physical and sexual violence very rarely come to the attention of the Health Authorities. Women tend to keep quiet about such attacks made on them, and prefer not to mention them to anyone, either the family or the authorities.

Of all episodes of violence, about 14 % are perpetrated by the partner. Violent attacks of this nature are frequently repetitive (in 67.1 % of the entire sample). In such cases there is a long history of quarrels, violence, separations and subsequent attempts to make peace. The final epilogue is sometimes dramatic, involving very grave violence and even murder.
Results: Often it is jealousy that triggers the attack against the woman; this jealousy is often borderline pathological but almost never due to a delusional disorder. It is likely, therefore, that social and cultural factors contribute to the manifestations of violence within the couple (these commonly occur in large urban conglomerations; they may involve the victim's work setting and profession; the victim's level of education).
Conclusions: These factors underline that a change is currently occurring in the traditional male/female relationship, and a growing independance of women. In this sense, some aspects of the Italian phenomenon differ from the situation in the USA (Caetano et al, 2008; Jewkes, 2002). It cannot be excluded, in any case, that old sterotypes may still hold fast in some social milieux in

our nation. These may induce the woman to accept a certain degree of violence in order to "keep the family together"; meanwhile the man is being obliged to adopt a new model within the family, quite unlike the previous dominant role, and that he may have great difficulty in accepting.

PP-106

Spousal homicide: about a case

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In a relationship marked by domestic violence, homicide risk is minor as the victim submits to the aggressor and as the control of power is maintained, that is to say, as the cycle of violence rotates.

The risk of homicide increases when the victim decides not to obey the partner anymore, to keep distance and to end the relationship.

Generally speaking, the spousal homicide is often a premeditated murder; it is often the result of a long relationship violence, domination and control. It is the iceberg peak of domestic violence.

Several conjugal homicides are a result of a split in which the victim took the initiative. Unable to accept that his spouse will escape his grip and losing all trust that she will come back, the violent man would desire to see her dead rather than out of his control or with another man.

You are offered to study an interesting case of spousal homicide which happened in Oran (western Algeria's capital).

Our team participated at -the -scene forensic examination and an autopsy was carried out in our department to find out the exact causes of the death.

The results and the forensic conclusions confirmed a violent, criminal death.

PP-107

Abuse against the elderly: Brazilian epidemiological study

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The aging phenomenon in Brazil follows the trend in the rest of the world. As this vulnerable population grows, so does the number of violent occurrences against it. The objectives of this study were to evaluate the main characteristics of this violence in Brazil and to alert health professionals about the identifiable physical signs that identify these victims and their abusers.

Results: The Southeast region represents 42 % of the overall population and, along with the South, it accounts for 8.1 % of the total number of people over 65 years old. We analyzed 201 filed complaints between May 2006–2010, 79 % were of female victims. Neglect was the most frequent type of isolated aggression followed by physical assault. The most common cause was the combination of neglect and physical abuse. The frequent aggressor being the son or the daughter. Of the aggressions committed by daughters, the neglect was of 59 % and physical aggression was 39 %. In turn, of the aggressions committed by sons, the neglect was (53 %) and physical violence was (41 %). The perpetrator's chemical dependency was determined to be an important associated factor. In Brazil between 2006–2010 there were 425 reported deaths resulting from elderly mistreatment, 79 % were male, 45 % white and 78 % were as a result of physical violence. In the same period 2.5 % of those admitted for abuse were elderly. In the medico-legal expertise field it is important to consider the following characteristics that suggest abuse: physical injuries: a) wounds at different stages of healing or bruises (purple, brown-green, yellow and lastly brownish yellow), lesions that denote an instrument, restraint injuries on wrists, ankles and heels, traumatic alopecia, scalp edema, broken teeth, nose and x-ray images showing ancient misaligned fractures and burns; b) injuries indicative of sexual violence are: itching, anal or vaginal bleeding, pain, sexually transmitted diseases, spotting or bleeding in the underwear. Most battered body areas: face, side region of the right arm and back.

Conclusion: The majority of the abuse suffered by the elderly occurs in the form of neglect and physical abuse. Many deaths were not identified as violent by lack of diagnostic elements, especially because of the omission of violence by family members who are usually the aggressors. This is a fundamental reason for the coroner to pay close attention to possible external aggression signs in his victims in order to assist victims and the justice system to accurately determine the cause of death.

PP-108

Profile of assault and battery victims aged 70+

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Background: Every other day, one of the victims examined at the Paris UMJ (medico-judicial emergency unit) is over 70 years old. This study aims to differentiate the various types of violence and determine the epidemiological characteristics of these elderly assault and battery victims.

Methods: This prospective study reviewed the medical files of 189 patients, aged 70 years or more, who were examined at the Paris UMJ unit between January 1st and December 31st 2011.

Results: The oldest victim was 95 years old and 66.5 % of the study population were women. Cases were distributed into three categories according to the type of violence: extrafamilial assaults (137), intrafamilial assaults (35) or accidents (17). In 68 % of cases, the victims did not know their attacker. The most frequently injured body parts were the head (44 %) and the upper limbs (39 %). Average TTD (temporary total disability) duration was 9 days. Cases leading to legal proceedings mainly involved robbery with assault and battery: 60 % of extrafamilial assaults involved robbery, mainly bag-snatching. In average, TTD lasted 10 days after extrafamilial aggressions. Intrafamilial violence victims were essentially women (82 %). Taking into account the presence of several perpetrators in certain cases, 67 % of intrafamilial assaults consisted in parent abuse and 38 % in conjugal violence. Intrafamilial violence most often resulted in benign injuries, with an average TTD duration of 5 days. The most serious injuries were found in the "accidental violence" category, where average TTD duration was 16 days and where fractures were present in 19 % of cases. These mainly concerned the upper limbs (63 %), predominantly the shoulder (19 % of all fractures). Average TTD duration increased to 30 days in cases involving a fracture.

Conclusion: Although extrafamilial assaults are the most frequently reported type of violence, our hypothesis is that numerous intrafamilial assaults remain unreported. The most severe injuries result from "accidental violence". In terms of wound severity, this is followed by extrafamilial assaults with intrafamilial violence coming last. Because they are particularly fragile, elderly victims usually suffer quite lengthy post-injury TTD, notably in case of accident. In order to improve our

understanding of victimization phenomena and identify which factors influence the risk for 70+ victims of becoming bedridden, we need to explore and analyse the factors connected with physical and psychological vulnerability.

PP-109

Knives and Cultures

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Knives are known as one of the oldest human tools. It is estimated that first human used sharp stones as knives. With the invention of metal, as civilization advanced, various types of metals used in making knives (through the Stone Age, Bronze Age, and Iron Age) emerged. All advances in technology make knives more sharper and more violent. Although, a knife has been accepted as a symbol of bravery through all era, sometimes it is identified with dirty trick.

The meaning of a knife is different for each culture. For a Japanese, a knife is a tool for commiting hara-kiri. For an American, Rambo-knife is a symbol of heroism. Similarly, a knife has a culturel meaning in Erzurum.

In Erzurum, which is a city founded at the foot of the Palandöken Mountains at the altitude of 1950 meter in the east part of Turkey, knives are a part of social life. Especially, the folk dance indigenous to Erzurum called as "bar" has a main figure with knives. All cast are men with knives. This folk dance is a mark of courage and manhood.

In this study we aim to point out the relationship between knives and culture.

The type of social life doubtlessly determines the values, and these values consequently determine the behaviour of individual. On this basis, violence with knives are commonly seen in Erzurum. In 2011, 7.6 % of the judicial cases applying to Department of Forensic Medicine of Atatürk University Research Hospital to get a judicial report were suffering from stabbing. Our study doesn't include the cases having stab wounds on head region. 92.3 % of them were male. It is a natural result because of the knife is a symbol of manhood.

PP-110

Concurrent Diyadic Death Case Report

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Introduction: If one commits suicide after a murder, this incident is defined as "suicide after homicide". The following terms are used in the literature for this entity: 'murder-suicide', 'homicide-suicide', 'homicide followed by suicide', 'murder followed by suicide' and 'dyadic death'.

The term of "multiple death" can be a more appropriate umbrella term for these types of events. The multiple deaths are subject to various classifications in many ways. The multiple deaths can be sorted as dyadic death (dual death), triple etc. based on the number of victims. The diadic deaths can be divided into two categories according to the timing of the incidents.

1. Concurring (or simultaneous) suicide-homicide act

These incidents are intentionally prepared with careful planning and dominated by escape psychology. These types of dyadic death events can be a result of a traffic accident, exposure to toxic gas, jumping from a height, jumping to the water for drowning, or being a suicide bomber.

2. Nonconcurring suicide-homicide act

These are suicide acts conducted by one individual starting with somewhat an unintentional homicide like a burst of rage etc. which is followed by a feel of regret or a fear of future and resulted in suicide. These types of diyadic death incidents can show variations in different societies.

Case report: In this multiple death case, a 30 year-old male and 5 year-old girl who were tied to each other with a rope was found in the water. The crime scene report, pictures, eyewitness testimonies and related media articles regarding this incident are evaluated.

In our study, our aim was to clarify the terminology and examine the perpetrator characteristics based on the motivation of this concurrent diyadic death case by mentioning the definition differences of the multiple death cases in the literature.

Discussion: The perpetrator's main motivation in the concurrent diyadic deaths can be the concern for the person left behind or the desire to punish a third person. In these types of events in which there is no direct violent feelings to the victim, the murderer does not intend to use methods where significant external trauma is involved.

Besides, one should not disregard the fact that there is always a doubt for the possibility of a third party murdering both people or all people and preparing a fake crime scene for giving a wrong impression of diyadic death to hide his/her murder.

PP-111

Case Report: The Analysis of the Motivation on Rarely Seen Multiple Death Type

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Introduction: Suicide followed by homicide (SFH) is referred to an act where the perpetrator commits suicide after he/she murders someone within a certain period of time. This circumstance is defined as 'murder-suicide', 'homicide-suicide', 'homicide followed by suicide', 'murder followed by suicide' or 'dyadic death' in the literature. However, there is no agreement on the definitive terms in literature.

A through search of the literature reveals that the perpetrators are males aged between 19–86 years (most between 40–59) in most cases. The perpetrators determine the pattern of the incident, which show variations based on the society and the gender. The victims are usually the individuals in close relation to the perpetrator. This type of incident is quite remarkable since it usually occurs with an unusual manner, by an unexpected person and can causes indignation in the society and sometimes an "innocent" third individual's death. However, the law enforcement does not always pay enough attention to these incidents and the court can refuse the prosecution and the investigation can be closed due to the death of the murderer.

The aim of this study is to define the terms properly, investigate the incident pattern, possible motivations and the profiles of the involved individuals emphasizing the infrequency of female perpetrators.

Case report: The suspected perpetrator was a 33-year-old female, who was sleep-deprived, losing weight and treated for anxiety disorder with introverted personality. She committed suicide after having murdered her 33-year-old husband and 7-year-old daughter with a 9-mm pistol. According to the crime scene report and pictures, they had a fight in the bedroom prior to the incident. The body of the male, who was the actual target, was found in the bedroom. The girl was possibly murdered by accident with her body found curled up between the bed and opposite wall of the entrance of the bedroom having showed an apparent effort to hide.

Discussion: The perpetrators in multiple death cases are typically a males and the murder incident is followed by a suicide act. In our case, a female perpetrator who was in need of psychiatric treatment murdered her

husband and her daughter following a discussion which was interpreted due to the mess in the house and the locations of the bodies. She possibly murdered her daughter by accident and then committed suicide due to the significant regret.

DROWNING

PP-112

Forensic study of death by drowning in Malaga (Spain) considering several variables

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Background: The cause and the establishment of the manner of death by submersion are routine challenge for forensic pathologists that present considerable difficulties for a correct diagnosis.

The aim of the present study was to describe the most common findings in individuals who presumably died by drowning and give documented answers to relevant questions during the investigation of the death by drowning.

Methods: Based on 78 selected adult victims who presumably drowned, we analyzed the victims, autopsies, histopathology, circumstances of death, toxicology and environmental postmortem findings.

Results: From 2004 to 2011, 200 deaths by drowning occurred in the province of Malaga (Spain) in fresh and seawater. The exclusion criteria (victims<18 years old, significant putrefactive changes, death with resuscitation attempts, no evidence of pre-existing lung pathology) left us 78 cases from which 56 cases were males and 22 cases were females, with a mean age of 57.79 and 68.45 years respectively. From 78 cases, foam was found in 49 victims (62.82 %). Lungs weighted higher than 1000 grams in the majority (80.76) of presumed victims by drowning. The remaining cases (19.24 %) showed a lung weight less than 1000 grams. Histopathological findings indicated a high incidence of rupture of alveolar septa (95.6 %) and the presence of alveolar edema (88.02 %). In female victims suicide happened in most cases (63.63 %) in contrast to the 8 cases of suicide (14.28 %) described in males. Additionally, 30.36 % of males and 18.18 % of females analyzed presented an alcohol concentration in blood higher than 0.2 g/dl.

Conclusions: A complete autopsy, histopathological examination and toxicological screening are important to determinate the manner of death.

PP-113

Scuba diver deaths due to air embolism: two case reports

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Background: Barotrauma and decompression sickness are the two most well-known complications of diving. A diver is breathing gas at increased pressure after descending, which often leads to tissue gas supersaturating. When the ambient pressure decreases quickly following ascent to the surface, excessive formation of gas bubbles, which can enter into circulation, occurred in supersaturated tissues.

Method: We present two cases of diving fatalities due to arterial air embolism and discussed with a review of literature.

Results: Case 1: A 32 year-old male with unknown significant medical history who was a recreational diver. He was found floating prone position on the bottom of sea in a depth of 33 m. He had been carried to the surface in a controlled ascent. There were no signs of life when he arrived the hospital. Despite resuscitation attempts, he did not revive.

Case 2: This was a 39 year-old male who was experienced dive instructor in a diving school. There was no problem in the initial stage of diving. Following an uneventful duration of dive, he was found unconscious with a floating supine position in a depth of 30 m and there was no sign of life.

In both cases; post-mortem external examinations showed hemorrhagic foams around the mouth and nostrils. Extensive subcutaneous emphysema of the extremities detected by palpation of skin. X-ray images, performed before autopsy, supported subcutaneous emphysema and showed extensive gas bubbles in the great vessels. Performed autopsy and diffuse gas bubbles like beads were seen in the coronary arteries and in ventricles, basilar artery and all of the cerebral arteries. No toxic substances were found in the toxicological analysis of the blood and urine.

The pathologic cause of death was given as gas embolism and drowning for each case.

Conclusions: Air embolus, another form of decompression illness and arterial gas embolization is the second most common cause of death to divers, with squeal dependent on the final destination of the emboli with mortality rate from 7 to 14 %. In scuba diving, these gas bubbles most commonly occur in uncontrolled ascents with decreasing partial ambient pressure which results in gas coming out of supersaturated tissues into the intra-vascular space. Air embolism, associated with decompression sickness or pulmonary barotrauma during diving, can lead to various tissue and vital organ damages and may result in undesirable consequences if it enters cerebral or coronary circulation.

PP-114

Inundation in Genoa: cases report of six deaths

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Background: Frequent and abundant rains, especially if lasting for several days, can pose significant problems in urban areas and emergency management is often difficult.

Additional risks arise in cases of careless town planning and maintenance of riverbeds.

Case report: Due to abundant rainfalls the city of Genoa was flooded on November 4th, 2011. More than 400 mm fell on the urban area in twelve hours, a third of the yearly precipitations.

Ferreggiano stream overflew its banks at a point of considerable narrowing, mud poured on the roads and on the nearby neighborhood where there is a high density of schools and shops.

At 13.50 many people in this area were overwhelmed, roads and buildings being flooded. The water level increased till 2–3 meters.

A mother with her own two children and another woman drowned after the lobby of the apartment building they were sheltering in filled with water. Once floodwaters receded, rescuers found the body of two

other women who had been crashed between cars swept up in the current.

Autopsies on all victims were performed.

Mud and debris were found on the bodies along with non-fatal injuries probably due to crashing; muddy material mixed with water was also recovered in the airways.

In all cases cause of death was asphyxia due to flooding of the airways.

Conclusion/Discussion: The Authors emphasize the problems related to management and prevention of hazards that might occur during floods.

Over the years maintenance of riverbeds was not carried out, so riverbeds were full of vegetation and building was poorly controlled thus narrowing the riverbed hence favouring the overspill.

Furthermore, in previous days, weather forecasts predicted joining of multiple fronts of precipitation, which would have caused heavy rainfall.

Despite authorities declared a second grade state of alert (scale 0–2), schools remained open and people underestimated all warnings.

When muddy torrent arrived many people were in the streets, including workers and those who had gone to take their children from school.

In natural events citizens must be adequately informed and invited to avoid places where escape is difficult.

In this report it is important to underline that serious damages and deaths might have been avoided with proper management of the emergency and risks.

PP-115

Postmortem macropathologic findings in drowning: saltwater and freshwater drowning

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The pathologic findings in autopsies of drowning victims are nonspecific and vary from case to case. The first step in the autopsy room to the diagnosis of drowning is the detailed analysis of postmortem macropathologic changes. The aim of study is to analyze the pathological data in cases of drowning and if there are significant differences between saltwater and freshwater drowning. We studied 140 cases (132 males and 8 females) of drowning (107 saltwater drowning and 33 freshwater drowning) selected from medico-legal autopsies performed in the Institute of Forensic Medicine, Cadiz (southern Spain). The mean age of the subjects was 47.1 years (SD 18.6; range 2–87 years), while the mean post-mortem interval was 27.5 h (SD 19.8; range 3–96 h). We evaluate macropathologic changes with particular attention to the presence of a external foam, a frothy exudate in the airway, the presence of a pleural effusion, water into the stomach >500 ml and lung weight. The presence of these pathological changes were 36.4 %, 46.4 %, 14.3 %, 52.1 %, respectively. Mean of lung right weight was 691.9 g and lung left weight 633.5 g. We found statistical significant differences between saltwater drowning and freshwater drowning in the presence of external foam (41.1 % vs 21.2 %; $P=0.028$), pleural effusion (16.8 % vs 6.1 %; $P=0.04$), lung right weight (738.5 g vs 537.5 g; $P<0.0001$) and lung left weight (669 g vs 516 g; $P<0.0001$). Macromorphologic pathologic findings no allow a definite diagnosis of drowning and there are differences in the presence of these signs between saltwater and freshwater drowning.

PP-116

Drowing: autopsy and laboratory findings in 197 cases in the Attica region

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Introduction: The purpose of this report is to describe the main autopsy and laboratory findings from a large number of drowning victims in Greece. In most countries the average age of drowning victims is relatively young.

Methods: A retrospective analysis was carried out of the consecutive cases of drowning victims autopsied in our department during the period 1997–2004.

Results: A total of 197 submersion cases were referred to the Department. In 168 cases drowning was considered as the cause of death. In 82 cases (49 %) significant histopathological findings from the cardiovascular system were present. Alcohol was found in 21 cases (13 %) and psychoactive substances in 4 cases (2 %). Food was found in the stomach of 45 drowning victims (27 %). Men (65 %) and elderly people (60 years and older, 74 %) made up the majority of drowning victims. In 29 submersion cases the cause of death was other than drowning; in 25 of these cases death was attributed to cardiovascular disease (complication of coronary artery disease, 23 cases; dissecting aortic aneurysm, 1 case; cerebral stroke, 1 case).

Conclusions: The great majority of drowning victims are the elderly and men. Moreover, in a considerable number of submersion cases cardiovascular disease was related to the death, either as a contributing factor, or as the cause of death.

ELECTRIC DAMAGES

PP-117

Fatal victim by natural or cosmic electrical discharge (Fulmination) occurred in Mato Grosso State- Brazil

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Introduction: the Pantanal of Mato Grosso belongs to the Midwest Region and is part of the Amazon. In the summer temperatures, and has flooded large areas, favoring evaporation. The tropical rains (six months per year) are more constant, always accompanied by lightning. Human losses by cosmic electricity are rare. REPORT: E.F.S., 38 year-old man was in a landing boat during a storm and protect himself, sought shelter under a tree (Jatobá). Supported the right hand on the trunk and instantly fell an electric shock on the crown, hitting the victim, who died instantly.

Autopsy: The body was completely wet and smelled a strong odor of burnt hair. The clothes were partially torn. We find second-degree burns with the presence of hair and hair scorched and brittle, and blistering routes in the path of the passage of electricity through the

body. Regions: the right axillary, anterior chest, peri-umbilical, groin, scrotum, and left leg, had burned by blistering and small routes, also present in the gluteal region.

Signs of choking: small areas of bleeding and intra-ocular congestion and cyanosis of the face, lips, tongue, oral mucosa and neck regions. At the autopsy itself, we find in the cranial cavity, small areas of parenchymal hemorrhages involving regions of the nervous centers. The lungs were slightly enlarged with various regions of visceral bruising and a small tear in the right upper lobe, through which flowed a small amount of dark liquid blood, the blood had pericardial cavity (hemopericardium), liquid and well-looking dark. The heart had a laceration of about 3.5 cm long, located in the lobby, through which flowed too small amount of blood drained into the pericardial cavity. As part of the heart muscle still showed fasciculations, probably due to the action of electricity in parts of the cardiac walls.

Discussion: the atria have thinner walls, especially the auricle, with a maximum of 2 mm thick and therefore more easily break. (information taken from an interview with the cardiologist Nivaldo Cortella). Apud França (2011): "The site survey is essential. Death is due to pulmonary tetanization of respiratory muscles (diaphragm and intercostals) and vasomotor phenomena. The stop breathing before the cardiac arrest".

Conclusion: the victim's death was caused by asphyxia, acute respiratory failure, cardiopulmonary arrest, atrial wall rupture and hemopericardium with cardiac tamponade, cerebral edema and hemorrhage by the action of natural electricity or cosmic - fulmination.

PP-118

Two fatal cases of high-voltage electrocution during theft of copper wires from the same abandoned warehouse

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Background: Electrocution while trying to steal copper wire that is carrying a live current is an uncommon cause of death seen in our Department and around the world. Death is related to abnormal electrical rhythms in the heart and brain, and production of internal and external electrical burns. Particularly, high-voltage electrical injuries result in high mortality and morbidity. Theft of copper, mainly from electrical wires, is becoming a more frequent crime as the value of this metal rises and it is easily re-salable. Thieves are generally young and socially disadvantaged.

Case report: In the last year our Department of Legal Medicine examined firstly a 22 year-old men found lifeless inside a high-voltage central electric unit of an abandoned warehouse. 8 months later, another guy (19-year-old) of the same ethnic group died in the same place, which was still restricted for the previous case, and circumstances. Scene investigations in both cases showed the bodies close to bits of copper wires, and the presence of cutters and other electrical tools. Forensic autopsies were performed in order to define the cause of death. Gross and internal examinations revealed electrical burns all over the body showing central erythema with charring of skin and loss of tissue.

Toxicological analysis of urine samples resulted as negative for the first decedent, while the second one was intoxicated with tetrahydrocannabinol. Carboxyhemoglobin analysis revealed a value of 8,2 % and 8,9 % respectively. Evaluation of the circumstances surrounding death made it reasonably clear that in both cases the decedents underwent electrocution while trying to steal copper wires from the electrical substation (15000 V).

Discussion: Despite the fact that numerous fatal accidents caused by copper theft are reported by the media, the number of thieves does not appear to be diminishing, and the incidence of electrocution due to the theft of copper wires will likely continue to be a problem as long as copper prices remain high and thieves believe they know how to identify inactive electric substations.

Conclusion: Our report clearly shows that theft of copper-related electrical injury is becoming more frequent in the community and should be added as a "new" risk factor for electrocution. According to that, forensic pathologists need to consider these circumstances as possible cause of electrical deaths. To keep copper theft to a minimum and consequently prevent copper-related life-threatening events, metal recyclers should be subject to tighter regulations and monitored more frequently.

PP-119

A retrospective descriptive study of electrocution deaths in Northern Tunisia: 2007–2011

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Electrical injuries are responsible for considerable morbidity and mortality all over the world. Yet, they are usually preventable with simple safety measures, making death by electrocution one of the most preventable causes of death.

There is a paucity of data with regards to non-lightning, electrical-related injuries in Tunisia.

This study aimed to retrospectively review all high- and low-voltage-electrocution-fatality cases investigated in the department of forensic medicine in Tunis for the period 2007–2011.

Altogether, 151 electrocution-related deaths were identified, of which 85 cases (56 %) represented low-voltage-electrocution deaths and 66 (44 %) represented high-voltage-electrocution deaths. All cases were reviewed from a demographic and pathology-of-trauma point of view.

Victims were most frequently males (131) with a male to female ratio of 6.5:1. Victims were aged 2 to 81 years old with a mean age of 32.37 years. The majority of deaths occurred in the 21–30 year age group (49 cases, 32.45 %), during the summer (54 cases, 35.7 %) and autumn (44 cases, 29 %) with the lowest number of deaths occurring in winter (25 cases, 16.5 %). There was no electrical contact mark present in 18 cases (12 %). One hundred and sixteen cases (76.8 %) were dead on arrival at hospital.

Electrocution was most frequently accidental, on the workplace (65 cases, 43 %), at home (50 cases, 33 %) and in common public areas (32 cases, 21 %). Two cases were classified suicides and the victims were both men with psychiatric illness who electrocuted themselves in public areas. Only one case was classified homicide in which a 52-year old man was electrocuted by his wife and her lover.

This study shows a high number of electrocution-related fatality cases in Northern Tunisia as compared with the rest of the world. It also shows a significantly higher rate of electrocution deaths among males, a high proportion of high-voltage-electrocution deaths and a lack of safety on the workplace.

It also serves to highlight the need for more active workplace and domestic safety campaigns.

PP-120

Medicolegal Approach to Electric Cataract: A Case Report

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Background: Electrical current injuries are still in effect today. Besides high paced industrialization, carelessness is also a cause of these incidents. In fact, cataract caused by electricity injuries are quite rare.
Methods: Following the examination of the individual who was sent to our branch management for forensic examination report, by DA's office, we have reviewed the medical and forensics investigation document of the case and literature about this incident. We reported a case, whose in both eyes bilateral cataract developed after some time exposing to high voltage current and survived.
Results: 24 year old male; injured 3 years ago, due to accidental contact with a power line while working in the farm. In the hospital he was taken, 2nd degree burn on the face and neck, one entry wound on the scalp with hair, plus, necrosed exit wounds on bilateral inner sides of both ankles with a wound scar in the sole of left foot additionally an exit scar under the 4th toe of the right foot were recognized.

Emergency scanning was negative for any significant pathology. Patient received multidisciplinary treatment by many physicians and follow-up at the burn unit for 35 days.

During his stay at the hospital, eye consultations showed no discrepancy. In the end, he was discharged without any visible deficit. Several weeks following his discharge, as he has gone back to another hospital for vision impairment, he was diagnosed for bilateral cataract. Vision impairment was resolved by bilateral lens implantation.
Conclusion: It shouldn't be forgotten that cataract due to electric injury may appear long after the primary incident. Therefore physicians should always be alert and aware of this issue.

PP-121

Neuron loss in the dentate gyrus due to electric injury: An experimental rat study

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Neuropsychological changes including deficits of cognitive functions have been reported in electrical injury survivors. The dentate gyrus is a part of the hippocampal formation. It is thought to contribute to the formation of new memories as well as possessing other functional roles. The aim of the present study is to examine the effect of electrical injury in the dentate gyrus granule cell layer.

Fifteen Wistar rats were diveded into three groups: 1st Group, control group; 2nd Group, the points of electrical contact were on the dorsal skin in this group; 3rd Group, the points of electrical contact were on the temporal region in this group. The current was the usual city current (110 V, 50 Hz, 100A AC). On the 3rd day, rats were decapitated; brains were removed, sectioned and stained with H&E. The total granule neuron number in the granule cell layer of the rat dentate gyrus was estimated using by optical fractionator method, an unbiased stereological method.

The total neuron number (mean±SEM) of the dentate gyrus was 248155±3940, 196094±6526 and 173752±5219 in the 1st, 2nd and 3rd groups, respectively. The total neuron number was significantly decreased in the 2nd and 3rd groups compared to 1th group ($p < 0.05$). There was no significant difference between the 2nd and 3rd groups ($p > 0.05$).

In conclusion, electrocution leads to granule neuron loss in the dentate gyrus in rats. Localization of the contact point may have no effect on granule neuron loss in the dentate gyrus even it is on head or dorsal region.

PP-122

Untypical Circumstances Of Death During Angling

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Background: The authors present a case of sudden death of a 56-year-old male during angling. The man was found sitting on a stool on the shore of the lake, presenting symptoms of cardiac arrest. Medical Air Rescue arrived at the place and started CPR procedures but without success and the patient was pronounced dead. Near the body a fishing rod was found. The prosecutor ordered the autopsy examination of the cadaver.
Methods: The autopsy with toxicological and microscopic examinations were performed. The external inspection of the body revealed the presence of electrical burns on the palmar surface of the right hand, right thumb, forefinger and middle finger and the same type of lesions on the left toe and on the posterior surface of the right thigh. The internal examination showed enlargement of the heart and coronary atherosclerosis. The toxicological examination revealed the presence of ethyl alcohol in the blood (1,2 ‰) and in the urine (1,6 ‰). In the microscopic examination of the electrical burns the epidermis showed a 'Swiss cheese appearance'. The autopsy findings proved that the cause of death of the 56-year-old male was electrocution.

During the inspection of the place of death the Police noticed that above the stool of the angler was a high-voltage line (15000 V). The height from the ground to the high-voltage line reached 8,5 meters. The length of the fishing rod lying near the body was 8 meters and the rod was made of carbon fibre. Carbon fibre is a very good conductor of electric current. The stool which the angler was sitting on was made of metal.
Results and conclusion: The Police investigation and the autopsy results explained the manner and mechanism of death of the angler. During angling the man was holding the fishing rod in the right hand and he was sitting on the stool. Accidentally he must have touched the high-voltage line above him by the end of the long fishing rod. That caused the electrocution and location of the electrical burns on the body fits the sitting position of the angler in the moment of electrical injury. The point of entry of current was in the right palm and fingers and the point of exit was situated on the posterior surface of the right thigh and on the left toe. The victim didn't preserve appropriate caution during angling and didn't notice the high-voltage line above him.

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Lightning associated deaths: a case report

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Lightning shock (LS) related deaths shows the regional and seasonal changes. Lightning shock related injuries are parallel with the number of the lightning and frequently seen in June, July, August and September. The victims are people who often exist or work outdoors such as farmers, campers, hikers, construction workers, golfers and hunters. Inside the home the victims are especially telephone or other household appliances users. Lightning shock related deaths usually exist with a high-voltage current. Death occurs as a result of cardiac and respiratory arrest or electrothermal injuries. In this poster presentation, a lightning shock death case is discussed and evaluated with literature.

In our case, while 3 shepherd grazing their sheeps, the lightning fell on two of them. One of them injuried and the other one died at the scene of accident. At the same, lightning also was died three goats. Our case was a 49-year-old man, his systematic autopsy was performed another provicial branch of the Council of Forensic Medicine. The typical lightning shock related skin lesions, edema and hyperemia of internal organs and fumigated areas on the hair were detected at autopsy. The criminal investigation file and autopsy report were sent to the Council of Forensic Medicine First Specialization Board and asked the cause of death by the prosecutor's office. After evaluation of death scene investigation report and autopsy findings Council of Forensic Medicine First Specialization Board was decided that the cause of was originated from lightning shock.

Lightning shock related deaths generally occur at the open field. This type of deaths are rarely seen. For this reason death scene investigation and performing autopsy should be done. Lightning protection information should be described people, who especially exist or work outdoors, to reduce lightning shock-related injuries and death.

ETHICS

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Whose Decision is this or Hippocrates' Dilemma

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There sit the sons of Dark Night,
Sleep and Death, the horrible gods.
Sun never sends its light to them
During neither rising to sky nor sunset,
One walks over the backing of the soil and sea
Brings sweet peace for people,
Others heart is from iron, its soul is from bronze.
Captured human cannot escape from its hands
It hates even immortal gods …

In his book "Thegonia", Hesiodos told so about the Death (Thanatos) staying with its brother Sleep (Hypnos) in deepness of Underground (Tartaros). Hesiodos is accepted as creator of Greek Pantheon with great Poet Homeros and granted numberless descriptions and names to medicine science. Thanatos (Death) the eponym of "Euthanasia" was one of them. Euthanasia comes from Greek words "eu" (good, beautiful) and "thanatosis" (death). It is used nowadays as the same meaning with "death without pain", "death without ache" or "mercy killing".

Ok, but why does a people want to die? While continuing their bloodline is expressed into their genes and (consciously or unconsciously) they are looking for getting back their natural immortality right which was taken from them since first sin, how can the human beings abandon their right?

Is the reason the fact that life is together with death? Or is it fatalism ruling to surrender the unique inevitable reality?

Like Ivan Illich brought forward, I think that sterilized death desire in the conditions of today (death desire while all of clinical data are normal and people is under diligent control of intensive care units till the last breath) is the decision of very strong people. However just a couple of thousands years ago (I mean before the people became enemy of nature); aging, patience and death was a postulated part of life.

Well, which changes made human beings to claim the right to speak about their own bodies so loudly?

In this study, these changes causing the loudly claiming the right of euthanasia and some examples for ethical discussions about these changes will be provided.

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Perimortem Cesarean Section on an Ambulance: case report and bioethical considerations

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The authors describe a rare case of Perimortem Cesarean Section, performed on an ambulance in an external hospital emergency call, with survival of the fetus in the immediate future and a year from the event (without neurological deficiencies). This fact is analyzed both from a legal (according to the Italian law) and ethical-deontological aspect. In particular: the behaviour of a non specialist in obstetrics in a non-hospital environment, the role of international guidelines (conceived for the intra-hospital environment) and the value given to the evaluation of the chances of the mother's survival are analyzed. The authors, in accordance with international guidelines, affirm that the fetus survival is strictly related to the mother's life, thus consider it a priority to make sure that the mother gets all the cures recommended by the protocol, saving the Perimortem Caesarean Section in a non-hospital environment in those cases in which the evaluation of the mother's chances to survive are equal or close to zero (emphasis on the attempt to save the fetus) or to those cases in which the evacuation of the fetus could re-establish the mother's cardio-circulatory activity (attempt to save both the mother and the fetus).

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Frozen Undeads or Legal Deads

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"Ah, there is ice around me; my hand burneth with the iciness! Ah, there is thirst in me; it panteth after your thirst! "
Friedrich Nietzsche

She took a last look around before entering the building with a writing "LIFE THROUGH ETERNITY" at the door. The place, like an oasis, located in the middle of the land, reminded her, the Garden of Eden. Under the trees reaching to the sky to catch the clouds, colorful flowerbeds in dark shadows lied over emerald green grass, filling the heart with a childish happiness. She could even hear the voice of her thoughts in a deep and calm silence. She thought "my childhood" and sighed, "so far away". Then, she desperately looked at the building: "especially at this very moment…"

As she headed to the entrance, an inner voice kept saying "turn back". "Turn back and run away."

She said "no" to the inner voice. For a moment, she thought she heard her own voice. Was she really talking to herself, or was it just a trick of her own mind? She said "no", "the heaven is standing right in front of me. I am facing the door that leads to immortality."

The inner voice was not listening to her. "Funny. Not immortality, but an endless uncertainty is waiting for you. The real heaven is out of the door you are trying to enter, not behind. If you have the courage, turn back and look at the world again. Do you think that you will see all these things again once you wake up?"

No way… She built all her plans and spent all her money. Determined not to make any more discussion, she entered the building between sliding doors. As she shook hands with a man with a white coat, she pretended not to hear the last words of her inner voice:

"What about your family, your friends? Tell me, are you going to take them with you?"

"Immortality" is the new pledge of this technology which entered in our lives. Technical, legal, theological and ethical discussions about this topic do not seem to end, just like any other innovations. We cannot explain all of them together in details; one example question for each topic will be discussed in this study.

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Elder Discrimination Towards Hospitalized Patients

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Introduction: Elders need more health services than other age groups. During the provision of health services age discrimination may negatively affect elder patients. In this study, it was aimed to determine that whether age discrimination exists for hospitalized patients.

Material-method: Our study was conducted on 298 hospitalized patients. The questionnaire consists of 8 questions trying to determine patients' socio-demographic attributes and 22 items prepared by the authors for the purpose of determining age discrimination through the physical properties of the hospital and the behaviors of the staff. While frequency and mean±standard deviation were used in summarizing the data, chi-square and t-test were utilized for comparing the groups.

Findings: It was determined that 54.9 % of the patients included in the study were male, 72.8 % of them were married, 79.5 % were subject to the social security institution and 16.8 % had green card security. The average of age of the patients was 53.1±17.4. It was determined that, as the ages of the patients get older they have more difficulty in finding the rooms for examination and staying at the hospital, the operation the patients will undergo are most of the time explained to their relatives, that older patients are given priority during examination in comparison with younger patients, that health personnel tend to shout more to older patients and spend less time with them in comparison with younger patients, and that they show signs of exasperation when dealing with older patients ($p<0.05$). As the patients' ages get older they showed less consent in giving their beds to younger patients ($p<0.001$). Health personnel tend to address female patients (58.6 %), patients with primary school or lower education (53.3 %) and patients with green card (66.0 %) as aunt or uncle ($p<0.05$). It was also determined that 53.7 % of the patients prefer to be addressed with their names.

Conclusion: It was determined in our study that, older patients are negatively affected from the physical characteristics of the hospital and are uncomfortable with some negative attitudes of the health staff. In order to ensure that the patients benefit from health services equally the determined negativities have to be rectified and positive aspects have to be strengthened. Raising the patients' awareness on their rights and increasing the sensitivity of health personnel will negate the existing discriminations based on age.

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Post Partum Abortion as an extreme expression of the Bioethical views that are dangerous to human life

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A significant deviation from the principles of ontological personalism and self-determination has been noted in the trends of modern bioethics, which entail a risk to human life. To this end it is considered that there is no "person" when certain brain functions are missing (self-realisation, communication, emotion, minimum moral conscience, etc) or where there is no conscious interest in life, a vital prospect and the assessment by its agency. The threat to human life becomes even more apparent in the marginal phases of the end (cortical death, patients in PVS, dementia etc) and its commencement: minimal protection for the in vitro embryo, wide acceptance of premature (passive) euthanasia, the extension of eugenic abortion until the end of the pregnancy, abortion permitted during childbirth and during the neonatal period (post partum), i.e. permissible infanticide! It is a fact that during the modern age of the technical sciences in medical biology, the neural sciences and genomics, the fundamental bioethical concepts are redefined in terms of their content and hierarchical position through a multilevel cultural interaction. Some concepts need to have an absolute force despite the pluralistic nature of bioethics in order to avoid absolute and dangerous relativism and legal positivism. This is the concept of the "person", where the meaning and limits cannot be defined by anthropological or socio-cultural criteria. The purpose of this study is to demonstrate that the view in favour of the admissibility of infanticide is an extreme form of the dangerous approach to the bioethics of the person and to investigate whether the deviation from ontological personalism to less severe forms of personalism is in line with the excellent protection of human life.

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Organ donation for transplantation: a survey among medical students

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Introduction: organ transplantation is a synonym with modernism in nowadays medicine. Tissue donation has become recently a preoccupation of forensic pathologists as well. Organ and tissue shortage is a consequence of donation refusal by the family members in some cases. Investigation of medical students' opinions may provide evidence for educational strategies to be used in the medical universities in order to improve people's perception of the donation act.

Material-method: we performed a cross-sectional study by interviewing 140 second and third year medical students from the University of Medicine and Pharmacy Tîrgu Mureş, Romania. The questionnaire contained 22 items and included questions concerning legislative knowledge about autopsy and organ donation and for exploration of

the reasons not to donate organs or tissues from a deceased person (family member).

Results: We interviewed 140 students (mean age of 20.5 years), 42 (30 %) and 98 females (70 %). Most of the respondents lived in urban areas (78.6 %). 89 students (63.6) declared they already talked within their families about organ donation. Overall 81.4 % agreed to donate their own organs after death (no significant gender-difference) while only 61.4 % expressed their willingness to donate a close relative's organs in the eventuality of brain-death. Desire of beloved body integrity preservation for emotional reasons was the most indicated answer when asking about reasoning, the second argument being "respect towards the deceased person". Religious motives have been indicated only three times. Church attendance was irrelevant in relation to the willingness to donate.

Discussions: the Eurobarometer survey (2010) concerning organ donation in Europe revealed that 31 % of the Europeans unwilling to donate are unable to give a reason for their decision while only 7 % indicated religious reasons. Within our group the distrust in the health system and fear of improper body manipulation were less significant than in the European survey, possible due to the specificity of our group.

Conclusions: reluctance to donate a close relative's organs after death is more increased compared to that to donate own organs after deaths. Social and religious affiliation do not seem to influence, instead emotional and moral factors are most frequently invoked by medical students in our survey group as justification of indecision or refusal of organ donation.

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Ethical decision making in neonatal resuscitation, a case report

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On 2 June 2009, the Nîmes administrative court condemned the Hospital of Orange (France) for unreasonable obstinacy after neonatal resuscitation.

On 14 December 2002, an apparently stillborn child was resuscitated after approximately 30 minutes of foetal distress. Cardiac activity was recovered, but the child has since suffered from severe disabilities.

The court did not find any fault committed by the hospital regarding maternal care. However, the hospital was sentenced to compensate for the injuries caused by unreasonable obstinacy. According to the court, the medical team should have taken into account the harmful neurological consequences of prolonged foetal distress.

The court did not condemn the act of resuscitation itself, but its excessive length.

This court ruling serves as a basis for reflection regarding the limits by which unreasonable obstinacy should be set.

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Ethical and forensic psychiatric contributions to living organ donors' evaluation

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Background: evaluation of living organ, tissue or cell donors is required in order to establish both the existence and the capacity to express a free and informed consent on the donation for transplantation process. Different views of autonomy might influence the decision if a donor's offer is ethically acceptable. Acceptability of a prospective donor might be influenced by cultural, legal and social situations in different countries. Evaluation of the capacity to donate is in Romania the task of a joint forensic medicine and psychiatric commission.

Method: we analyze the case of a young man with mild mental retardation who was willing to donate a kidney to distant relative and in whom a rejection decision was finally made by the ethics commission based on a forensic expert opinion. We investigated elements of mental status examination, the process of understanding the recipient's illness and transplantation outcomes, aspects of psychosocial stability, affective relationship with the recipient, education, social and familial insertion.

Results: based on our case analysis and review of the literature we aimed to elaborate a semi-structured interview as tool of assessment of living donors consent and capacity to donate an organ for transplantation. We propose the following items: understanding of the recipient's illness, understanding of the transplantation process (including risks), decision to donate development, knowledge of post-donation health risks, right to reconsider. Each item contains a range of questions and finally a scoring from one to three is established by the interviewer. Moreover, a context of psychiatric history, personality style and mental status examination should complete the interview.

Conclusions: the donor's autonomous and voluntary decision is a necessary prerequisite for allowing a physician to hurt one person in order to help another. Ethical principles must be completed with medico-legal psychiatric standards for settle some cases in the "grey zone".

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Anencephaly organ donation: how the Brazilian government understands this issue

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Brazil ranks as the fourth country in the world with the most prevalence of anencephaly according to recent data from the World Health Organization. However, it is still forbidden in Brazil to interrupt the pregnancy of an anencephalic fetus. The present study objective is to analyze the medical, legal and ethical challenges imposed by the debate of use of organs from anencephalic neonates for transplantation from the point of view of bioethics in Brazil. The path chosen to achieve this goal was a descriptive and exploratory method through the use of literature search conducted from books, magazines, papers, journals. Anencephaly is a severe defect of the embryonic central nervous system and has been the subject of heated debates in various sectors of Brazilian society and several questions can be brought up: 1. Should babies with anencephaly be considered as persons? 2. Are they potential organ donors? 3. If so, under which circumstances? 4. Can the definition of death or brain death be changed? 5. Should we practice intensive support of life for neonates with anencephaly in anticipation of brain death? 6. How should priorities be determined in neonatal units with limited resources? The present project has as its main goal to contribute to the debate about the anencephalic as organ donor and

to the legal and ethical issues surrounding the topic. The current Brazilian law prevents the use of anencephalic as a donor, while holding signs of life with spontaneous breathing and crying, because they are positive signs of activity in the brainstem and not full characterization of brain death. Therefore, it is evident that there is no consensus about the procedures that should be employed to the neonate anencephalic, in that its death is merely a matter of time. The fact is that, pending meeting the criteria for brainstem death, you cannot get organs that are viable for transplant. Even with intensive therapy, the typical repeated apneas and bradycardia will cause hypoxic and ischemic lesions in the organs before death, becoming limited to the anencephalic organ donation. The stillborn fetus with anencephaly is a potential organ donor, if this is the will of the pregnant woman to do so.

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Medicolegal Evaluation of Informed Consent Forms Used in A Cardiology Clinic in A Training and Research Hospital in Istanbul

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Background: Informed consent originates from the legal and ethical rights of the patients. Patients have to know what will happen or what will be done to their body and make decision about their own body. Physicians' one of the ethical duties is to give their patients information about their health. In this study, it is aimed to analyze the informed consent forms in medico legal aspect and to determine if they are accordance with Turkish Laws or not and if there is any need for revision of forms or not. In this context, it is wanted to emphasize that why the informed consent is necessary, how the informed consents should be taken, what the physician's legal responsibility about informed consent.
Method: For this study, ethics permission document and corporation permission from Istanbul Provincial Directorate of Health were taken. Records of patients, who were hospitalized in a cardiology clinic in a Training and Research Hospital between 01 January 2011 and 30 June 2011, were analyzed retrospectively. 189 patients' records were randomly selected from among 1807 hospitalized patients' records. Data about informed consents were statistically analyzed using SPSS programme (version 14.0).
Results: In this study, 189 patients' informed consent forms were analyzed. 127 males and 62 females, having the age range 16 to 92 years, were studied. It was detected that 99 patients (52.3 %) had signed the informed consent forms themselves. There wasn't any signature on 3 (1.5 %) of 189. There were 186 (98.4 %) informed consents for hospitalization. Also, there were informed consents forms for 75.5 % (n=73) of patients with stent, 84.1 % (n=117) of patients applied angiography, 86.7 % (n=13) of patients applied transesophageal echocardiography and 50 % of the patients with pacemaker.
Conclusion: Patients must be enough and voluntary to make decision and also understand the application about themselves. These are mandatory for informed consent in medical ethics. Informed consent is a very important medicolegal risk management tool. With this tool, physicians can minimize their juridical and criminal risks. An informed consent includes the nature of the decision/procedure, reasonable alternatives to the proposed intervention, the relevant risks, benefits, and uncertainties related to each alternative, assessment of patient understanding, the acceptance of the intervention by the patient. Success in informed consent increases parallel with the communication skills. There are some deficiencies about using forms in Turkey. For both patients and physicians goodness, knowledge about informed consents must be increased.

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The responsibilities of a health volunteer rescuer: ethical and medical-legal considerations

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In Italy, the organization of health services of external hospital emergency and urgency calls is based on skilled rescue teams (made up of a doctor, a nurse and technical staff) and rescue teams of volunteers coming from rescue associations. The authors analyze the figure of the health volunteer rescuer into the external hospital emergency and urgency system, focusing on the peculiar ethical and medical-legal aspects that characterize the responsibilities in civil and penal areas (according to the Italian legal system). Furthermore, also the responsibilities of the health volunteer rescuer that works in a team with the medical staff are analyzed together with the form of responsibility that characterizes the doctor or nurse that carries out voluntary activities in his/her free time.

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Smoking Ban In Turkey Through Different Ethical Arguments and Legal Approach

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In Turkey, The World Health Organization Tobacco Control Framework Agreement was approved on 25 November 2004 by the act no 5261 and as an agreement that was published in the Official Gazette, it has the same status as any other Turkish Act. Although the use of tobacco is a global problem the parties to the agreement, whilst their commitment on the subject of protection of public health is indisputable, have indicated their worries; on the international public consumption of tobacco products and exposure to smoke and the consequences of this on the global population in economic, social and environmental terms. Also, in the new amendment applied to Act no 4207 in 2008, that it inarguably complies with the Tobacco Control Framework Agreement on the subjects of, the ban of use of tobacco products in indoor premises and smoke free air space applications and the tobacco control and the prevention of damages. The restrictions and bans imposed for "The control of tobacco products and prevention harm"in order to ensure and protect the right to health of the individual and society is not only in compliance with the constitution and the Tobacco Control Framework Agreement but is also a scientific and contemporary necessity from the perspective of protecting human health and future generations.In this study, we aim to discuss the smoking ban in Turkey through different ethical arguments.

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Legal and regulatory issues about a study protocol comparing 2 strategies for management of body packers carrying ingested drug packets

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Background: About one hundred individuals are apprehended each year in Paris for transporting internally concealed narcotic substances or body packing. The medical implications of this practice stem from its potentially life-threatening complications. Body packers are monitored in a secure hospital ward until the complete evacuation of the ingested foreign bodies.
Method: A monocentric randomized controlled trial comparing two treatment strategies will take place on October 2012. Legally speaking, this study comes under the label of "usual care" studies.
Results: One of its specificities is that it is conducted on detainees. The French legislation is attentive to the rights of detainees participating to biomedical research projects. The validity of their consent to participate to the study is scrutinized, regarding possible language-barrier issues or the intelligibility of the information provided. Three administrative authorities have to be approached based on the following legal fundamentals. The protection of persons in health-related matters comes under book 1 of the French Public Health Code (Livre 1 du Code de la Santé Publique). Biomedical research issues come under section 2 of the same book.

Legislative aspects are covered by articles L.1121-1 to L.1123-14 and L.1126-1 to L.1126-11 of the Public Health Code; regulatory aspects are covered by articles R.1123-1 to R.1125-13.

The elements to be included in the request for advice from the Committee for the Protection of Persons (Comité de Protection des Personnes) included in research aimed at assessing "usual care" mentioned in the second paragraph of article L.1121-1 of the Public Health Code, are listed in the decree dated March 9th 2007. Under these rules and regulations, the person sponsoring the research work must consult the French Agency for the Safety of Health Products, the AFFSAPS (Agence Française de Sécurité Sanitaire des Produits de Santé) and the Committee for the protection of individuals of the region where the study is to be conducted.

The third administrative authority to validate such study protocols is the French National Commission on Information Technology and Liberties, the CNIL (Commission Nationale de l'Informatique et des Libertés), as dictated by article 25 of law number 78–17, dated January 6th 1978 and modified in 2004.
Conclusion: This restrictive legal frame aims to reconcile the human right to free will with the imperatives of biomedical research. If we are to ensure legal consistency, standards should be developed to harmonize the obligations that currently weigh down medical research investigators.

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Evaluation of Informed Consent From Viewpoints of Patients, Physicians and Patient Relatives

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The first patient-physician relationship has been started with the one who cried with pain and the other who came to the crying one. So the crying one was the first patient, and the other who came to him for helping was the first physician. Early on, this relationship was formed with the unquestionable hegemony of the physician. In other words, the destiny of the patient was in a way resigned to the physician's paternalistic attitude. This term which was firstly introduced legislation in the United States of America, was entitled as 'informed consent'. When referred meaning of this term is considered, it is being translated in Turkish as 'Aydınlatılmış Onam' or 'Bilgilendirilmiş Rıza'.

In this study, the results of physicians' informing patients and patient relatives or not, have been tried to be evaluated with depth interview technique. With this aim, 3 groups (patients, physicians and patient relatives), each of them consisting of 10 individuals have been taken to be interviewed with the technique of depth interview in order to analyze their sociodemographic features, their first meeting with 'informed consent', attitudes they experienced and their opinions about what should be done.

With this study, the fact that education, social environment and experiences are one to one related with being conscious about one's own personality rights has been understood. Thus, it can be concluded that all social problems about rights and responsibilities, including the ones related with informed consent, may be solved in a more reliable way with making up the deficiencies in education.

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Mandatory Reporting Law: Problems and Solutions in Turkey

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Background: Knowledge of mandatory reporting laws has become integral to the practice of medical care because many reportable conditions are regularly encountered in medical departments. Mandatory reporting laws impose requirements on physicians to report certain conditions or suspected conditions to local legal authorities for further action. These laws, which govern various conditions from infectious diseases as a HIV infection to situations of abuse, are contentious. Although debates surrounding these laws are condition specific, in general, they pit concerns of patient and community safety against desires to maintain patient-physician confidentiality and arguments that mandatory re porting laws may be ineffective at promoting safety. This study discusses Turkish Criminal law and subsequently examines the rationale for and against mandatory reporting laws as they apply to medical conditions.
Method: In this process, the important issue of mandatory reporting law, which takes place in Turkey, was examined and discussed closely. Unsatisfied with it, the mandatory reporting problems that the other countries have been facing were analyzed.
Results: As a general result of negligence on Medical Ethics and jurisprudence, there is a big discrepancy between these two important instruments. In many countries, lots of applications of the mandatory reporting system have been observed and it was realized that there was no uniformity in these different applications even the different states of the one country. Owing to various approach suggestions of different groups such as Chamber of Physicians in Turkey and law society, mandatory reporting system hasn't been implemented equally and homogeneously among physicians.
Conclusion: Medicine, as a profession, is quite a hard commitment, with the aim of taking care of patients. Physicians assume professional accountability not only to their patients and relatives but also to legal authorities. In case of insufficiency in exercising this multidimensional accountability, they may confront legal and ethical issues. In an attempt to remove this situation; legislator have to empathize with the physicians. Additively, the unacceptable disparity shows that each concrete case needs different obligation. Ultimately pre- and post-graduate forensic medicine education must be considered highly important, and periodic on-the- job training must be organized, creating a better awareness among doctors regarding their legal responsibilities.

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Assessment of the Deaths in Nursing Homes and Hospices in Istanbul

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Introduction: Aging starts with birth and is an inevitable process, which is difficult to accept. The definition and borders of the care in this period is important also for expert witness viewpoint.
Methods: This is a retrospective study assessing the death cases that were sent to the Council of Forensic Medicine Morgue Department for autopsy between 2005 and mid 2011. The statistical analysis was performed using SPSS 11.
Results: The retrospective evaluation determined 29 death cases in the hospices and nursing homes. The mean age was 73.41+14.10 years (range: 35 to 101). There were 17 males (58.62 %), and 12 females (41.48 %). Natural causes of death were more frequent (n=17, 58.62 %) and non-natural causes of death were accident (n=8, 27.59 %) and suicide (n=4, 13.79 %). The pathological deaths were as follows: cardiovascular system diseases (n=12, 41.37 %), gastrointestinal system diseases (n=3, 10.34 %), respiratory diseases (n=1, 3.45 %), and central nervous system diseases (n=1, 3.45 %). Accidental deaths were as follows: 3 (10.34 %) secondary to falling from a height, 3 (10.34 %) due to falling on a flat surface and 2 (6.90 %) due to traffic accidents. Two (6.90 %) of the suicidal deaths were due to hanging and two (6.90 %) were due to jumping from a height. Histopathologic assessment with H&E staining revealed findings that would explain the cause of death in 21 cases of 29 (72.41 %), while in 8 (27.58 %) no such findings were found. In these 8 cases, the origins of deaths were as follows: accident in 4, suicide in 2 and in the rest of the 2, autopsies could not identify any etiology other than possible unidentified disease. The toxicological screening was also performed.
Conclusion: This study demonstrates that the most frequent cause of death was related to the health problems associated with the advanced age. With evaluating suicides and accidents and the reason of autopsy in natural deaths, a dilemma of how broad an elderly person's autonomy and freedom should be kept in hospices and nursing homes by the personnel, can be discussed to decide if they are juristically negligent to the elderly individuals or not according to the level of close-follow up they are obliged to perform on elderly individuals. In this consideration, all evidences, autopsy reports and other scientific - ethic viewpoints on elderly rights should be synthesized by the the expert witness.

PP-140

The Use of Animals in Forensic Sciences

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Background: Hundreds of millions of animals are used every year in laboratories all over the world, and 11 million in the European Union, among which less than one million in Italy. With time the need for fast scientific improvements has caused the pandemic diffusion of such a practice in every field of science. However, if in clinical research the sacrifice of an animal and the consequent ethical aspects may be considered secondary to the therapeutic advantages which may derive from its application, in forensic sciences the use of animal models may be questionable. Nonetheless literature includes several experimental protocols which envisage, for example, verifying the effects of hanging, electrocution, trauma, drowning in mice, rabbits, cats and dogs.
This presentation has as its main goal a brief review of the existing literature concerning experimental protocols on animals in forensic sciences in order to shed light on this sensitive, ethical and often ignored aspect in legal medicine.
Methods: A meta analysis of scientific articles published in the last decade in the field of forensic sciences in major scientific journals and concerning animal experimentation was performed. The species involved, the types of lesions, the types of sedation and methods of performing euthanasia according to local laws and ethical committee approval, type of results, their applicability to the human species and frequency of citations were taken into account.
Results: over 100 articles were evaluated, concerning experimental projects involving animal models in vivo; in a significant proportion application to human situations could seem questionable and citation of the articles was low or inexistent. Rats and mice were most frequently used, but pigs, dogs and rabbits are still commonly encountered in the forensic scenario. In some cases animals were not anaesthetised during all procedures. This leads to the problem of different local ethical committee standards.
Conclusion: Experiments on animals may be widely justified in the field of clinical medicine, where possible advantages for the improvement of life conditions and health are expected; however in forensic sciences ethical and scientific implications may not be the same. The present communication simply wishes to draw the attention of forensic scientists to the issue of animal experimentation, in a third millennium where ethical, ethological and cultural evolution seem to be leading more and more towards an inter-species society.

PP-141

To Be Gynecologist in Private Hospital: Administration, Ethics and Medicolegal Issues

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Introduction: Obstetrics and Gynecology is a specialty that is widely perceived to be associated with a high risk of litigation. Most of the potential problems in that field usually result from the lack of knowledge about ethics and medicolegal principle. Ethics is an essential dimension of obstetric and gynecologic practice. In this study, we present an ethical and medicolegal framework for clinical judgment and decision-making in the obstetrician-gynecologist–patient relationship. The presentation emphasizes a preventive ethics approach, which appreciates the potential for ethical and legal conflict and adopts ethically justified strategies to prevent those conflicts from occurring.
Material method: The most important medicolegal problems in Obstetrics and Gynecology in private practice were analyzed and separately discussed in terms of Turkish Criminal Code.
Findings: Management of child sexual abuse and sexual assault cases in private hospital were the most anxious situation with fertilization problems. On the other hand failure/delayed diagnosis, failure/delayed treatment, failure to recognize complication, failed sterilization, failure to obtain consent and inappropriate treatment had been very often complained by the patients and relatives.

Conclusion: Health administration ethics is an important (but often overlooked) subject. Unethical conduct on the part of healthcare administrators can result in legal and reputation costs to the hospital where they work, meaning that ethical behavior is ultimately in the hospital's best interests. Preventive medicolegal risk management helps to build and sustain a strong physician–patient relationship in the especially private practice of obstetrics and gynecology. We examine ethical issues in responsible resource management, emphasizing the virtues of the physician as a professional. Finally, we provide suggestion for critically appraising the literature of ethics and medicolegal issues in obstetrics and gynecology. In critical condition, medicolegal consultation is necessary for safe practice. Like Cerrahpasa Medical School, Department of Forensic Medicine which provides medicolegal consultation is critical importance. Identification of specific characteristics of medicolegal problems in private hospitals can be the dual quality of the patient's self perception that appears in parallel with finance model and the problems' appearing on the implications of physician practice and the solution may be hidden in good physician practices.

PP-142

A lethal case due to septicaemia after massive burning injuries as a result of patient's refusal to treatment: ethical and legal aspects

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A fatal case of a 46-year old man, who died after massive burning injuries, is presented. The patient was transferred to the emergency department of a university hospital, where a diagnosis of 1st to 3rd degree burns affecting more than 30 % of his total body surface was made. The event was accidental in nature. First aid care was provided and the patient was subjected to the appropriate blood tests and investigations. Admission was suggested as necessary from the caring physicians who provided him all the information justifying their decision. However, the patient refused it and he left the hospital being conscious and having signed on his medical records that this was his own decision. The man was discovered dead by his neighbours at his home 12 days later. Septicemia and systemic inflammatory response syndrome (SIRS) was confirmed as the cause of death.

The aim of the presentation of this case is to highlight the ethical and legal issues related to an adult patient's refusal to medical life-saving treatment. The conflict between the patient's right to make autonomous decisions and the medical practitioner's duty to provide life-saving treatment are also discussed investigating the edges on which medical negligence may be founded.

PP-143

Legal consequences in case of an inadvertedly left instrument inside the patient's body after an operation

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A case of an inadvertedly left instrument inside the patient's body after an operation is presented. A patient who was subjected to aortocoronary by-pass, at the end of the operation presented ventricular fibrillation. The surgeon immediately injected adrenaline by puncturing the aortic root using a syringe with a small needle (length 1.6 cm). The small needle after the injection was left in place for air evacuation from the circulation while the surgeon started cardiac massage with subsequent cardiac defibrillation. The two other surgeon-assistants who were doing other parts of the operation were unaware of the fact that the small needle was left embedded in the aortic root. Thus after the patient's heart function recovery they proceeded to wound closure without removing the small needle. Postoperatively he developed pericardial effusion and he was admitted to another hospital in which he was subjected to a chest magnetic resonance tomography, as a consequence of which the needle migrated. A year later the patient was subjected to a chest x-ray for persisting coughing and fatiqueness and on this occasion the small needle was discovered inside his chest. The patient lived for 8 years after the operation but during this period he developed psychological problems as he could not accept to live having a foreign body inside his chest. The presence of the needle in the chest was confirmed also on an x-ray done within the context of post-mortem investigation and it was found to be well incorporated by fibrous tissue in the pericardial space. On post-mortem investigation it was also confirmed an acute myocardial infarction along with findings suggesting old ones, while no injury of the aorta or the heart as a result of the presence of the needle was noticed.

The aim of the presentation of this case is to highlight the legal and ethical issues related to an inadvertedly left instrument inside the patient's body after the operation and to investigate the edges on which medical negligence can be founded.

PP-144

The Assessment of Consent Form's Readability And Understandability In Turkish Language

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Objective: It is an ethical and legal obligation for consent forms to be understandable to the patient. Long sentences, confusing structure, foreign words make the text difficult to read. For evaluating the readability and understandability, mathematical models, like Flesch Kincaid index and Gunning Fog formula were developed. Sönmez and Ateşman's formulas are proved to be valid that are the adaptations of Flesch Kincaid and Gunning formula.

In this research; the terms difficult to understand were determined with a subject group, and with a new contribution, applying the Sönmez and Ateşman's formulas to Turkish consent forms were researched.

Methods: Hardly understandable terms and foreign words in Baskent University Hospital's "Coroner Angiography Consent Form" were determined by a group with 100 participants. Forms were researched in scopes of readability and understandability using Sönmez and Ateşman's methods. Form revised by authors. New form were determined by another group with 100 participants. Data were compared.

Results: Difficult terms the respondent detected were 86.2 % corresponded to the experts' determined words and terms. Old

form's understandability is, according to the Sönmez formula "text is understandable"and new form's is "full communication can be established". According to the Ateşman's formula old form's readability, is evaluated "medium-hard difficulty"and new forms is "clear and understandible". 71 % of participants evaluated that new form is more understandable and readable.

Conclusion: This research; with its "determining foreign words and difficult terms to understand with a subject group attachment", has the quality of being the first research done on Turkish consent forms' readability and understandability.

PP-145

The Educational Needs of Prison Physicians in Turkey: Views from the field

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Background: The medical treatment of prisoners is an important question for a humane society. Prison health care should be equivalent to health care in the community. Despite these important points, generally, training programs of medical faculties does not cover enough time and content for prison medicine. In this study, we aim to identify the educational status and their perception of prison doctors and their educational needs related to prison health service.

Method: The study was designed as a cross sectional survey and it was carried out in 2009–2010. We got permission to carry out for our survey from General Directorate of Prisons and Detention Houses. In the first step, we reached all doctors(64) by phone and invited to participate in the study.

Result: 59(92 %) prison doctors participated our study. 84 % of doctors had no any experiences about offenders as a patient in their undergraduate education period. All of them expressed that they had not received training program related to prison health problem and services. 84 % of doctors stated that they had difficulty to adapt to working conditions in prison. 93 % of our participants thought that physician patient relationship obviously is different in prison than daily community health service practice. 50 % of participants believed that their medical ability and proficiency is enough to work out patients' health problems in prison. 74 % doctors think that special education is a necessity working in prison. They expressed that education program should include psychiatric management of patients (64 %), management in prison & autonomy of medical professional (56 %), emergency practice in prison condition (49 %), patient-physician relationship and communication skills for prison condition (40 %). They think that additional education for doctors should be organized by medical faculty (49.2), ministry of health (45.8) or Turkish Medical Association (33.9). Interestingly, we found that 61 % of prison doctors had poor knowledge about national and international regulation about prison physician practice and 20 % of doctors had any knowledge related to regulations about their daily practice.

Conclusion: In light of our results, we can say that undergraduate and postgraduate education focused on prison health problem efforts are poorly in Turkey. In prison daily life, because of this lack of medical education, it leads to human rights problems. We suggest that medical faculty undergraduate program should cover prison health topics and this program should put into practice with collaboration of different academic areas which are public health, forensic pathology and medical ethics.

PP-146

The Evaluation of Verbal Information During The Process of Informed Consent

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The effectiveness of the process of information might depend on cognitive functions, mood and the level of intelligence of the patient. The effectiveness of information is also highly dependable on the informative skills of the informer.

Information is in a sense education of the patient on the subject.

The aim of this study is to develop an objective method for the evaluation of verbal information.

Primary studies suggest that various methods of how much students understand the subjects they are taught. In this study, as information of the patient is taken as a kind of education, it is assumed possible to evaluate the success of the process of informed consent by fiil inthe blank tests.

In the study, "fill in the blanks" tests which have been made up of the text standardized of Ateşman and Sönmez formulas (which are the Turkish versions of the Gunning Fog formulas and the Flesch Kincaid index) have been used on a random sample of 200 students who had no information whatsoever on Coroner Angiography and whose relatives of first degree had never had Coroner angiography.

Two different fill-in tests in English have been handed out to students, half of them (100 students) received test number 1 first, while the other half received test number 2 before test number 1. 50 students from both groups have been verbally informed about Coroner Angiography between the two tests and the rest have not been verbally informed, instead they have been made to listen to music for 3 minutes (the duration of information for the others). The number of correct answers and the time students took to answer all the questions for both groups have been recorded and compared.

Results: The average age of students was 21.80±3.72 for the study. On matters of age, sex and level of education, the groups were normally distributed.

No difference has been detected between the two groups that received first the test number one, then test number two and the group that received the second test first and the first test second ($p>0{,}005$). The difference between the two groups of which one received information and the other didn't, is statistically significant. ($p>0{,}05$).

Conclusion: "Fill in the blanks" tests may be used in the process of verbal information in order to determine the success of patients on understanding the information given correctly and the doctor on informing.

PP-147

Hymen Perforation via Vaginal USG Probe: A Case Report

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Introduction: The crime is accepted as aggravated if its committed by penetrating limb or an object into the body, in the clause

of Turkish Criminal Code about sexual crimes. Although this case is generally a sexual action, it may happen rarely by accident. In this study, hymen perforation case submitted which occured during genital examination for medical purposes, It is worth to discuss the incident not only for its juridicial character but also for the informed consent responsibility of the doctors against the patient.

Case: The virgin woman who went to her gynecologist because of her complaint of dysmenorrhoea, USG probe applied like in her previous examinations. In the last examination, doctor penetrated into the vaginal canal with transvaginal USG probe, the patient who was virgin, had to react instantly because of hymen perforation. It was understood that the patient neither enlightened by the doctor nor asked if she was virgin or not in anamnesis before the examination. As a consequence of hyper perforation, the patient brought a complaint about the doctor who examined her. In vaginal examination by Forensic Science Department by the permission of Prosecution Office, it was informed that there was a laceration at 9 o'clock side which its exremity is hyperemic and recently arised (1–2 days), the patient was not virgin anymore, the incident happened by penetrating limb or an object into the body.

Conclusion: The clauses editing sexual crimes, comprise the penalties due to the effects of the incident on the person. In this case, the doctor is held responsible for sexual assault and not executing his job outrightly. Especially giving sufficient information to the patients is the first responsibility of the doctors who are doing genital examination.

PP-148

The knowledge and awareness level of university hospital staff about patient rights

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Objective: Developing health care delivery systems in medical sciences must have a priority for patient oriented approach. From this point of view, becoming informed about the patient rights by heath care professionals can help to achieve this development. So not only doctors but also all staffs working in health services must have enough knowledge about this issue. The aim of this study was to evaluate the knowledge and awareness level of hospital staff about patient rights.

Material and Methods: A self-administered questionnaire about patient rights was hand-delivered to 124 university hospital personnel before an education program settled in 29 March 2012. Pearson's chi-square test was conducted to identify the statistically significant factors related to hospital staffs' knowledge about patient rights.

Results: 92 (74.2 %) respondents were female and 32 (25.8 %) were male. 69 (55.6 %) medical staff had received education about patient rights one or more times. 57 (46 %) medical staff had known the type of legal regulation on Patient's Rights declared in 1998 in Turkey. In this study, the value of ORs suggests that women medical staff had answered right answer about the type of the legal regulation of patient rights (OR=2.486, 95 %C.I. = 1.19-6.90).

Conclusion: In the light of this study, we conclude that educational activities about patient rights are beneficial in medical services education. These efforts can help hospital personnel prepare to improve capability to deliver respectful and culturally sensitive care.

FORENSIC ANTROPOLOGY

PP-149

Forensic Age Estimation in living subjects. Spanish Better Practice Manual on FAE in minors

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In 2010 October 7th a group of representative persons from nearly all Legal Medicine Institutes (LMI) of Spain met in Madrid at Spanish Ombudsman Office (SOO) premises to discuss about the situation of Forensic Age Estimation (FAE) in Living Minors in Spain. SOO promoted this meeting due to the evident differences of methods applied all over Spain in this forensic practice and also due to the complaints of different national and international committees about the way our country had been facing this issue. Neither methods applied nor professionals responsible of this medical evaluations were until then the same in different Spanish communities and no methodology was uniquely considered the gold standard. After this session, another meeting was promoted by SOO with members of Spanish Ministry of Justice, Public Prosecutors and Judges to discuss the legal implications of implementing an unique National Protocol about FAE. The conclusions of these two sessions settled the basis of a Spanish National Protocol about FAE in living minors. The protocol was published in the SOO website as an open access ebook and in one of the Spanish Forensic Medicine journals, Revista Española de Medicina Legal (REML), as two papers: conclusions of the sessions and Better Practice Manual on FAE in living foreigner unaccompained minors. This protocol was agreed by all LMI and Spanish Public Prosecutor Office made a final decision about sending all cases of minors unaccompained of an unknown age only to LMI were examinations and tests must be performed since then under a forensic physician supervision. The aim of the Better Practice Manual is to standardise and harmonise the minimum technical requirements of expert reports, and how the standard deviation due to normal distribution as well as how the variability in individual physical development should be handled. The proposals include making these examinations only by experienced and supervised staff of Forensic Institutions, following informed consent of the presumed minor. Evaluation must consist of an interview, with a physical examination, radiological examination of the wrist, and dental pantomography. Radiological or computerized tomography of the proximal epiphysis of the collar bone might be done in particular cases. It is also recommended that the Courts, not forensic physicians,should make the final decision on whether the person is a minor or not due to the important legal implications of such a decision.

PP-150

Protocol for collection of Biological samples for Examination Autopsy: Practical Method to avoid unnecessary exhumations

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Introduction: Most of the identifications of the bodies referred to medical legal centers is made for family members of the dead. This identification may be false by various factors beyond the control of them, as the emotion before the deceased. The documentation does not always have photos and some cases of advanced decay, even images do not allow identification. After the release of the body if the identification for the first release of the body is not true, either by communication of error by the family or by finding that the name written on the death certificate corresponds to a live person or by Police Authority in investigating cases of fraud, there must be an exhumation and autopsy for the collection of material for laboratory identification. The rectification of the document only can be made after this action.
Objectives: There is need for an alternative to the solution of this problem. Thus, the exhumation and collection of material could be replaced by a simple, almost free of charge, perpetual and permanent measure.
Methodology: After external inspection, the scalp shall be washed with running water and with the aid of a clean haemostatic tweezers we remove a sample of hairs with their bulbs. The hair shall be dried on a clean and dried bench to inhibit fungal growth and packed in a plastic or paper envelope. The samples are stapled on the cover of the report of the documentation and a note be placed saying that "are on file samples of the hair of the victim for DNA exam, if happen any doubt of his identification."
Results: In the last three years, when the method was implemented, there were no more cases of exhumation for confirmation of identity.
Conclusions: The authors consider that the implementation of this method simple, convenient and with no cost will decreased the performance of exhumation for the collection of material and, perhaps, discourage fraud in the identification of unknown bodies. This simple method is available to persons other than medical or even non-medical examiners, once they are taught to simply collect the material, and file the envelope containing the sample, in a safe place for later comparison.

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Golden proportion in skeletonized skulls

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Introduction: The proportions of the face and body have been analyzed since ancient times, as in the Vitruvian Man by Leonardo da Vinci. Studying the Divine Proportion or Proportions in skeletonized skulls is of great value because they may contribute to forensic facial reconstruction and photographs superimposition, auxiliary techniques used in the identification of unknown bodies.
Objectives: The objective of this study was to check the Golden Ratio and establish craniometric indices in sixty skulls skeletonized (n=60), from the Institute of Forensic Medicine of Bahia.
Methods: The measurements were performed directly on the skulls, using digital calipers and millimetric scales. After statistical analysis of the pilot project, in ten skulls, it was chosen: six horizontal golden relationships, four vertical golden relationships, six facial indexes and three geometric shapes defined by fourteen different measures in this research. The data were compiled. Means and standard deviations were calculated. The inferential analysis was obtained by description of the measures using the confidence interval of the mean ($p < 0.05$).
Results: The results showed the most significant golden relations by confidence interval and standard deviation, and establish specific craniometric indices for the studied population.
Conclusion: This study intend to improve the techniques of Facial Reconstruction and photographs superimposition. Therefore, a reduction in the number of missing people is expected and also an improve in the positive identification of unknown bodies, supporting the action of Forensic Experts, thus beneficing the society as all.

PP-152

Utilization of bone impedance for age estimation in postmortem cases

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Background: In the field of Forensic Medicine the number of unidentified cadavers has increased due to natural disasters and international terrorism. In addition to conventional anthropological methods, a simple, objective and precise method to estimate the age of unidentified cadavers to assist personal identification is necessary. The degree of sagittal closure is one of such age estimation methods. However it depends on subjective evaluation, leaving it open to error.
Method: In this study, we have examined whether measuring impedance value (z-value) of the sagittal suture of the skull could be utilized to estimate age in men and women of various ages.

In a second experiment, importantly, a comparison was made between the z-values from short postmortem time and remoistened rat bone.

A third experiment compared age estimation through the conventional visual method and the proposed bone impedance measurement technique.
Results: As results of first experiment showed that bone impedance values increased with aging in males. Meanwhile, in females, it increased with age and the decreased after the age of 71. As results of second experiment, the bone impedance values found from remoistened rat skulls were very similar to those found in short

postmortem time conditions (R2=0.74). Therefore, this technique may be able to use for decomposed body and skeletonized body.

The results of using conventional visual method did not necessarily correspond to the results of proposed bone impedance measurement technique.

Conclusion: It was found that bone impedance values increase with age. Through experiments on rats it is believed that impedance values may not change significantly with time or changes in moisture. Most importantly, it has been demonstrated that the bone impedance measuring technique is an effective objective method of estimating age superior to the subjective traditional visual method. That is to say, it is suggested that the bone impedance measuring technique can, with further research, be of value to forensic science as a method of age estimation.

PP-153

Anthropological and pathological analysis of medieval skeletal remains: identification of monks from historical records

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Background: During 2006 excavations on Crkviste site, in Bosnia and Herzegovina, skeletal remains of four individuals were found. According to church archives these people were monks who were fleeing from the Turkish army and settled in the area. The question addressed to anthropologists was whether these remains belong to the monks as it was stated in the records.

Method: Anthropological and pathological examinations comprised of age assessment at the moment of death, sex, stature, dental status, as well as recording the signs of skeletal disease or trauma and possible cause of death (natural or violent).

Results: Our results suggested that the skeletal remains belonged to four adult males of advanced age. One individual demonstrated depressed fracture of the frontal bone caused by a blunt object. Signs of healing indicated that the individual survived this trauma. No traces of injuries indicating a violent death were found on the examined skeletal remains.

Conclusion: Place of burial and state of preservation of skeletons indicate that these remains could belong to monks who lived in this church around 1460. Skeletal findings, i.e. number of skeletons, sex and age at death, and morphological features of the skulls correspond to the characteristics of the medieval Serbian population, and also suggest that the investigated skeletal remains belong to the monks who were stated in the historical records.

PP-154

Human and nonhuman radiological bone identification in mummies

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Background: One of the first tasks forensic anthropologists are faced with is to estimate the forensic significance of a skeletal find by determining whether or not the remains belong to human. This is an important step in bone identification because skeletal parts of a wide variety of animals are often submitted to departments of forensic medicine as supposedly human. The identification in such cases depends on the preservation and size of the sample and ranges from macroscopical to histological and molecular analysis of the bone. In some cases, radiological examination adds important details to the interpretation of the material.

Aims: We present a particular case where a forensic anthropologist and radiologist were requested to identify the mummified remains of animals curated in the Archeological Museum in Zagreb, Croatia. The main purpose of the analysis was to identify the taxon and attest the stage of preservation of the delicate remains. The specialists were requested also to analyze two mummified hands in order to attest whether they come from humans or primates.

Methods: A total of seven remains were analyzed in the study: five remains of unidentified animals and two mummified hands. The remains were examined by radiologic analysis at the University Department of Diagnostic and Interventional Radiology, Dubrava University Hospital, Zagreb, Croatia and included x-ray and MSCT imaging.

Results and conclusion: Mummification of animals was a common practice in ancient Egypt performed as a funerary rite for pets and worshiped animals or simply as an offering to gods. Although the animals were usually mummified in manner to conserve their external appearance, this was not the case in our study. Paleoradiologic examination helped to overcome this issue and allowed a noninvasive study of the remains. We were able to identify two animal species (a cat and the remains of crocodile hatchlings) while the third could not be identified with certainty. Another mummy that had no natural structure preserved was classified as an imitation of an ibis. The two hands were identified as being human, one belonging to an adult and the other to a two-year old child.

In addition, the poster will present the history of animal mummification practice in ancient Egypt, describe the main steps undertaken in examining the radiological finds, point out the main differences between primate and human hand anatomy and discuss the difficulties encountered during the radiological interpretation of mummified material.

PP-155

Sacral Measurements as a Prediction Tool to Stature & Gender in North-West Indian subjects

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Introduction: Identification is the most crucial parameter in a forensic investigation and also becomes most difficult task in cases of highly disfigured and dismembered bodies. With the ever increasing frequency of mass disasters (both man-made and natural), homicides, road and train accidents, airplane crashes, tsunami, there is utmost need of studies which can lend a helping hand in identifying the unknown from the dismembered and fragmentary remains. In such cases, skeletal examination may help since bones resist decomposition for a long time. However, in most of the cases recovery of intact bones is not possible, therefore bones which remain intact long after death such as vertebral column especially its sacral vertebrae may prove useful in giving a conclusive opinion on identity of the deceased and can give approximation of stature.

Although various vertebrae column measurements were significantly used for these estimation but possibility of estimating only from sacral vertebrae which invariably found intact has been explored comparatively in fewer studies that too on limited study material in the Western population. Literature on the subject from India in general and from north-west India in particular is very scanty. Keeping in view the

above facts present study is an attempt to estimate the gender and stature of an individual from various measurements of sacral vertebrae as applicable to North-West Indian population.

Material-methods: With a valid consent of the legal heirs of the deceased, body length and after debridement,cleaning & properly exposing,various other anthropometric measurements of the sacrum were taken according to the landmark and procedures described by Giraux et al in 717 adults subjects (549 males and 168 females) at the time of medico-legal postmortems.

Results & conclusion: Mean length of sacrum was more in males (11.095±0.891cms) where as its width was more in females particularly at the level of first & second sacral vertebrae (10.595±0.665cms, 8.954± 0.616 cms respectively). There was a highly significant correlation ship between the body height and sacrum length, width of 1st to 3rd sacral vertebrae ($p<0.001$) in both the sexes. From regression equations stature of an individual can be predicted with a Standard Error of the Estimate of 6.014, 5.142 &7.171cms. in males, females and combined materials respectively. Mean value of sacral vertebral index which was higher in females (103.865±9.370) statistically plays a significant role in determination of gender of an individual

PP-156

Identification Using MATLAB Software: a New Idea

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Introduction & aim: Identification using photographs is one of the forensic procedures in which a comparison between before and after photographs of missing person is made. The aim of this study was assessment the possibility of using MATLAB software to identify and provide a new method with easy implementation and few steps.

Method: At first the photographs of before and after death were selected and seven clear and reliable landmarks were determined in MATLAB software. Ten line segments between the landmark points were set and the length of each segment was calculated with accuracy of two decimal places. Fifteen different ratios between segments were determined and finally the average similarity between two groups was compared by the correlation coefficient analysis using SPSS software.

RESULT: Due to the number of defined segments, similarity of two photographs (before and after death) by calculating the correlation coefficients method was 85 %.

Conclusion: The introduction of computer software has led to new methods for identification. Using MATLAB software with the methodology used in this study as a less costly, faster, and with the help of a smaller database method that can analyze and identify individuals with high precision is recommended.

PP-157

Genetics variation of the NGM STR loci in a population sample from Argentina

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The AmpFℓSTR® NGM™ PCR Amplification Kit (Life Technologies, Foster City, CA) enables amplification of 15 autosomal short tandem repeat (STR) loci, ten of them included in AmpFℓSTR® Identifiler™ PCR Amplification Kit (Life Technologies, Foster City, CA) and the remaining five formed mainly by medium or small sized STR amplicons (D1S1656, D12S391, D10S1248, D22S1045 and D2S441). Allele frequency and other forensically relevant statistics data were generated for the NGM loci in an Argentine population (Entre Ríos province, mostly caucasoids). The analyses support that the NGM™ multiplex is most informative STR multiplex kits than Identifier™ in this population, and is a good complement to this in the investigation of complex family relationships, showing an increased amplification performance in cadaveric remains and forensic evidence. At the population level, all markers were found to be in Hardy-Weinberg equilibrium and overall non-discrimination probability decreased one order of magnitude compared to Identifiler™.

PP-158

Personal identification on human remains through an holistic approach involving 3D morphometric analysis: a case report

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The goal of this presentation is to show attendees that personal identification on skeletal remains.

This presentation will impact the forensic science community by stressing out the importance of a complete forensic approach, using alternative methods, when DNA results are not available.

Background: Skeletal remains were found at the bottom of a rainwater collect cistern in an abandoned farm in Apulian countryside. Men's clothing and an ID card, allegedly belonging to the victim, were found too. All the remains were collected and analyzed: the skeletal remains included animal bones, belonging to a bat and to a canine specimen, and human remains from a single subject. Both patellas, a thoracic vertebra and 9 teeth were not found.

Method: The cause of death was determined in a single head gunshot, while ribs, vertebrae and left scapula fractures were made post mortem, probably as a consequence of the 20 meters fall of the corpse at the bottom of the cistern were the remains were found. Time since death was assessed based on the degree of skeletonization and on chemical test. Race and gender were assessed based on both morphological and metric evaluation of cranial and skeletal indices. The subject age at the time of death was determined by evaluating dentition, ossification centers and cranial sutures closure; stature was estimated by anthropometric analysis of femur, tibia, fibula, humerus, radius and ulna. All data were matched with data reported on the ID card; DNA results were not conclusive, due to the poor preservation of skeletal remains. Then was performed a 3D skull-face superimposition technique. A 3D parameterized avatar of the skull was created with a photogrammetric technique and photos of the missing person were selected and acquired. The 3D skull was then carefully spatially oriented, in the same position as in the photos, and snapshots were taken. In the metric image analysis step, a quantitative comparison between the image of the missing person face and the snapshot obtained was carried out. Objective landmarks, as exocanthions, glabella and subspinal point were marked both on the 3D skull and on the missing person face.

Results: The absolute and relative distances between the marked points, the perimeters and the areas of the triangles, obtained by connecting the points, and the compactness indices were automatically calculated with a suitable program.

Conclusion: The correlation coefficients of this values, higher than 0.997, allowed to confirm the identification hypothesis.

PP-159

Evaluation of Combined Use of Frontal Sinus and Nasal Septum Patterns for Identification in an Iranian Samples

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Objective: Frontal sinuses are valuable for human identification. Water's radiograph provided a view of frontal sinus and nasal septum. Combined use of nasal septum and frontal sinus patterns may be useful for identification due to individual variations. The aim of this study was combined use of frontal sinus and nasal septum patterns evaluation in Iranian population samples for identity of unknown persons.
Materials-methods: In this descriptive analytic study, water's radiographs of 198 cases between 18 to 40 were collected. The information about frontal sinuses such as presence or absence, symmetry or asymmetry, kind of septum, superior border outline form and deviation of nasal septum were evaluated and data were analyzed using Chi-Square test.
Results: Presence of frontal sinus was observed in all subjects and there was no significant relation between sex and frontal sinus presence or absence, symmetry or asymmetry, kind of septum and nasal septum deviation pattern. There was a significant relation between the sex and the presence of scallop form in the superior border outline of frontal sinuses and this index was observed more in men than women ($p=0.05$).
Conclusion: There were no significant relation between sex and mentioned indexes (except presence of scallop form in the superior border outline of frontal sinuses) so the combination of these indexes is not useful for identification in Iranian population.

PP-160

The Use of Hand-Held Laser Scanning in the Assessment of Femoral Anthroposcopic Features in Sex Determination

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Background: This study is focused on an innovative approach to the numerical assessment of gluteal tuberosity through 3D visualization and its use as sex discriminant.
Materials-methods:
1. Subjects- The study was based on 40 right femura, male and female in equal proportion.
2. 3D laser surface scanning- Surfaces of gluteal tuberosity of the femora were recorded in 3D using a lightweight hand-held laser scanner (FastSCAN). The points were placed as follows – on the uppermost point, on the roughness – femoral surface border /a/, on the lowest point of the roughness – femoral surface border /d/, on the most medial point, on the roughness – femoral surface border /b/, on the most lateral point, on the roughness – femoral surface border /f / a few uppermost placed and distinctly protruding points are selected on the roughness itself /1,2,3,4,5 and 6 /. Each point contains x, y, and z values.
3. Measuring parameters- The following steps were taken: Determination of the midpoint of straight lines bf (g). Plane determination by points a, g and d. Points 1,2,3,4,5 and 6 are transposed to the plane formed. 4. A 2D polygonal shape is created, limited by points a, g, d and the transposed 1,2,3,4,5 and 6. 5. The area and the elevation of the figure created are measured, as they are the variables themselves.
4. Statistics- The statistical analyses were carried out using the SPSS system
Results: The means of the two variables of male femora exceed females' ($P<0.001$). The mean of the area indicated for males is 1,32 ±0,16, and for females - 1,11±0,16. The mean of males' height is 0,43 ±0,07, and of females' - 0,25±0,07. Cut point is calculated for both variables, respectively, being the arithmetic mean of the total of male and female means. Cut point for the area is 1,21 /females<1.21 cm< males/, and for the height is 0,34 cm /females<0,34<males/. According to these values, based on area, the accuracy of determination of the male sex is 65 % and of females - 85 %, and based on elevation, 85 % of males and 90 % of females, respectively.
Conclusion: This study demonstrates an innovative method of objective evaluation of the muscles' attachment points, which can be used successfully for sex determination, especially in case of highly fragmented bones that impede anthropometric analyses.

PP-161

Processing of facial reconstruction from skull: ABAB method (new model)

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Background: Facial reconstruction has been done due to different reasons such as the forensic studies and surgical requirements. The uses of facial reconstruction provide the way of the true identification of a significantly changed traumatic face in forensic medicine. Previously, there are several studies that make possible identification of a face by using the methods of facial soft tissue on underneath bone structure. Up to today, 3 dimensional (3D) techniques and conventional methods like Russian (Gerasimov), American, and English (Manchester) have raised for facial reconstruction.
Objective: The aim of this study was to make a facial reconstruction for our own skull excavated from our land (Anatolia) using our ABAB technique.
Material-methods: For this reason, a computed tomography study (CT) of an excavated skull was completed. Data were saved to a computer. At the same time the skull was examined by a Forensic medicine specialist and anatomist by naked eyes.
Results: By the help of all data, eventually, a computer and a sculptor made the facial reconstruction together.
Conclusion: Every region of our country is the center of world civilization. Be found or discovered skulls or other bone fragments in all applicants with the facial reconstruction will show us the general panorama of people who lived in this region at different times of history. In addition, hundreds of tons of data of the analysis-synthesis is possible to collect in this way. We want to come to these studies is to make the top spot phenotype and genotype comparison. In other words, configure the face from the genetic information.

PP-162

The identification of human skeletal remains: a multidisciplinary approach

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Background: In forensic practice, it is recommended that one uses a multidisciplinary approach for the identification of human skeletal remains. A specialized team of forensic scientists is required. This consists of a medical examiner, an anthropologist and an odontologist. Primarily, macroscopic examination of the skull and teeth are needed. Next, the assessment of age is gathered from the skull based on the anthropological findings. However, more accurate results of age estimation can be determined using dental morphology. The sex characteristics can be precisely ascertained through DNA dental analysis. Then, a complete X-ray study of the skeleton and an image-guided virtual autopsy using multislice computed tomography (MSCT) must match the radiologic images, anthropologic data and macroscopic findings.
Materials-methods: The goal of this presentation is to elucidate the team's investigation of the skeletal remains of "Felice" Martyr, patron saint of Sennori, from the province of Sassari, who has been preserved in a reliquary. The aim was to find out the sex, age, height and the cause of death. The team included a medical examiner, an anthropologist and an odontologist. A DNA test, complete X-ray and multislice computed tomography examinations were performed. A radiocarbon test was performed to date the remains.
Results and conclusions: The investigation team was able to identify the age, sex and height of patron saint "Felice," as well as the perimortem traumatic lesion. In this presentation we expound upon the conclusions of this investigation.

PP-164

Evaluation of dental characteristics in an ancient population

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Examination of teeth obtained from skeletal remains is one of the combined works of forensic anthropology and forensic odontology. These teeth characteristics provide information about life style, diet, habits, genetics and health status of ancient populations. The study material composed from 5 graves of a small population where had been lived in Istanbul dated to Late Byzantine period. Age and sex were determined and dentally distinguish features were analyzed specific to population. The population is consists of 5 children and 15 adults. 85 permanent and 14 deciduous teeth of 20 individuals were evaluated in terms of sex, age, growth and health. The size of the sample seemed to be smaller than the compared the others. Hypoplasia was detected in all canins and premolars. A rare case of pink teeth was found only in one tooth. Generally pink teeth occur as a result of sudden increasing pressure in tooth pulp and frequently seen in asphyxia cases.

It is assumed that this population located near by the Marmara Sea had survived an urban life. Although the sample size is small and archaeological findings are limited, present pathologies pointed out the evidences of malnutrition and stress.

PP-165

Age estimation in an adopted girl with precocious puberty

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Age estimation is one of the main tasks of forensic anthropology and odontology, both on the dead and the living. In living subjects, age estimation may be used to establish an individual's status as a minor in cases involving adoption, criminal responsibility, child pornography, and those seeking asylum, especially where adequate identification documents are lacking. The Authors report a case about age assessment of a girl born in Mbujimayi (Congo) and later adopted in Italy. The birth certificate issued after finding the child in a state of abandonment (in December 2007), bore date of 12.12.2004, but this was in contrast with the year of birth – 2003 – stated on the certification available to the center that had provided accommodation to the girl in Africa. Her adoptive parents reported that the child had been diagnosed with precocious puberty and was thus under treatment. She weighed 32.5 kg and was 132.5 cm tall. Basing on height and weight, body mass index (BMI) corresponded to the range between 9.5 and 14 years of age. The assessment of maturity indicators (sexual characteristics) placed the child at the lower limits of Stage II of Tanner's classification (sparse growth of long, slightly darkened, downy straight pubic hair; elevation of the breast and nipple as a small mound with increased diameter of the areolae). The skeletal age was determined by taking X-Rays of the hand and wrist using Fels, TW2 and Greulich and Pyle methods. Dental growth was assessed through orthopantomogram using Demirjian's technique. The methods applied were adjusted considering the studies on African population found in the literature, and a skeletal and dental age of 10 years was established. Afterwards, the wrist X-Rays performed at the Children's Hospital of Bari, 7 months before our investigation, revealed a skeletal age of 7 years. This evidence showed that, despite the treatment the child had promptly initiated, early puberty had influenced the skeletal growth with an acceleration of about 2 years. Therefore, the age we detected (10 years) was the result of precocious puberty. Then, we backdated the girl's birth (by about 2 years, based on current studies), stating that she was about 8 at the time of our investigation.

This case is significant both for the racial differences that need to be considered in age assessment, and for the importance of any pathology (growth disorders) that may affect physiological development and make the applied methods poorly reliable.

PP-166

Morphological Analysis of Sharp Force Trauma Patterns Using High Resolution Casts

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Background: Sharp implements are the predominant weapons used in homicidal attacks in the United Kingdom. There is a paucity of literature on sharp force trauma and studies into weapon identification are limited. Moreover the few studies that exist are often based on experimental procedures using semi-fleshed and de-fleshed bones. For the legal authorities investigating violent crimes and homicides, the identification of the weapon employed is of paramount importance.
Methods: Five fully fleshed domestic pig (Sus Scrofa) heads were stabbed by male subjects, using five commercially available sharp implements. The subjects were selected to fit the UK average weight, height and age of offending males, and were asked to stab each head twice, exerting the greatest possible force. Each individual was assigned a weapon and told which side of the head to stab, aiming for the frontal bones. The side of the head to stab was chosen according to the handedness of the subject. Subsequently, each head was macerated using hot water with dissolved biological washing powder and high resolution casts were created of the cut marks and the weapon tips for comparative purposes. The positive casts of the weapons and the skull cut marks were studied macroscopically and microscopically using an Olympus B2 metallurgical microscope. Microscopic analysis provided a magnified visual depiction of the surfaces of the weapon tips and the cut floor and walls of the bone. Macroscopic analysis employed digital sliding calipers to measure the length and breadth of the cut marks and weapon tips.

Results: Various analytical methods were utilized to compare and contrast the results When combining macroscopic and microscopic analysis for each cast weapon tip and cut mark, a 'match' was based on the level of correlation. In some instances, macroscopic analysis was adequate to match the weapon type (class) to the cut mark, based on the shape alone, however this was not detailed enough to match an individual weapon of the recognised type.
Conclusions: The combination of both microscopic and macroscopic examination results in a match between the casts of the weapon tips and the cut marks leading to the identification of the weapon class. Further analysis using SEM is expected to enhance the possibilities of identification of the individual weapon.

PP-167

Search Engines

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This review is dedicated to the issue of creating search engines capable of performing independent face image analysis and database search.
Introduction: Computerization nowadays invades various aspects of our life. We are presenting a review of the ways in which up-to-date technologies can be implemented to automatic and semi-automatic identification hardware and software suites. We consider this research issue particularly topical, as, for instance, over 200 thousand investigative files are currently registered in the database of the chief information analysis centre of Russian Ministry of the Interior. This enormous amount of information requires creation of computerized systems which could perform independent preliminary search of similar objects registered in the database.
Materials and methods: The systems which we have developed for these purposes will be described with examples.

"TADD SM" is a hardware and software suite providing database search in databases containing such information as 3D skull models or photographic images of people wanted and / missing".

"Portrait Search" is a hardware and software suite generating search by photo- and video images of individuals, unidentified corpses, skulls and identikit images (personal reconstruction of appearance).

"Identity Search" is a module which allows creation of a database containing social and anthropological (biological and physiological) information concerning people missing and unidentified corpses, as well as performing search in such database.

The«TADD»is a computer modification of the photo superimposition method (developed by: Abramov S., Boldyrev N., Bannikov A.). It consists of an optical system of noncontact measurement creating 3D skull models and of a hardware and software suite. The "TADD" system creates a partially automatic process of photo superimposition facilitating and improving search on a database. 3D skull models are mathematically accurate half-tone computer copies of the skull surface, presented on a PC screen as "virtual skulls".

"Portrait Search" is a system which, by means of several comparison algorithms, allows database scanning and revealing face images maximally similar to the examined face.

"Identity Search" is the database providing storage and rapid use of various data files, which could have direct relationship to the identity of a person (for instance, blood type, fingerprints, DNA code and foot size), as well as indirect evidence (licensed vehicles or firearms of the person).

Thus we consider that conversion to the up-to-date level of data accumulation and analysis, including computerization elements, will provide positive results required for the evidence of identification.

PP-168

Craniofacial Identification Case

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This review invites your attention to a practical case of craniofacial identification and gives you the gist of typical methods used in identification of individuals via the skull in Russia.

Introduction: The most commonly used methods in forensic analysis for identification are:
1. anatomical techniques identifying sex, age and descent of a victim;
2. comparison technique based on comparing separate elements of the appearance including individual peculiarities;
3. congruence of photographic images by means of the hardware and software suite "TADD SM".

A fragmentary skull was delivered to the forensic department from the investigation agency.

The cranium and the mandible were significantly damaged, with most of the dentition loose. After comparison of the fragments the skull was reconstructed which subsequently helped to reveal significant defects as well as a gun-shot entrance wound on the left temporal bone.

The skull belonged to a man of the European descent aged 32–42 years- such details were discovered by means of anatomic and osteometric methods.
Materials and methods: In vivo photographs helped to reconstruct the victim's appearance and structural features of the facial bones skull.

Similar features were discovered on the skull.

The emphasis of the examination became focused on the structural asymmetry of the facial skull bones, relating to identifying features of the individual.

As soon as certain similarities of the compared objects were revealed in all discovered common features, the cranial skull images were superimposed with the person's photographs.

A photo of an individual is scanned and represented on the screen. Then it is corrected within the program: 16 constant anatomic points are generated. These constants are matched with the same constants of the skull surface. The visible calvarium outlines are traced as well as the contours of the middle and bottom parts of the face, eyebrows, ear lobes and other features.

A 3D skull model was created by "TADD SM" and used as a skull sample.

During the superimposition analysis, one should take into account the location of the points of the skull model as well as and the head constants towards each other. Afterwards, the skull image is fixed in the found position. Besides the constant points, the skull outlines and the isolated features contours are marked.

Furthermore, certain congruence in location of all constant points and skull outlines was discovered in all examined projections. This allowed to conclude that the examined skull belonged to the missing Mr. X.

PP-169

3D modeling in forensic medicine

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This review will provide you with the information on the application and long-term development of 3D computer modeling technologies used in Russian forensics.
Introduction: Nowadays various up-to-date computer methodologies are widely used in modern forensics. We offer ways of using up-to-date technologies of noncontact 3D computer modeling that can be applied in the procedure of forensic identification.
Materials and methods: Some cases of portrait identification, craniofacial identification, as well as the procedure of confirming the identity of a living person, will be described as the examples of using such technologies. A number of examinations (investigations), the results of which are given below, were held using original methods and our own computer products.
1. 3D computer modeling technologies are especially effective for the identification by means of congruence, to an image of an identified person. This is because the perspective of the image is not significant in this case. This allowed producing the software which can do an automatic search on a large database of facial images (portrait search).
2. A computer modification of the photo superimposition (craniofacial identification) method is based upon the use of the software system "TADD SM" (developed by Abramov S., Boldyrev N., Bannikov A.) There are some configurations of this system including those which use 3D skull models. It has been demonstrated that it is possible to achieve rather positive results in automatic searching on the database with the images of missing people.
3. Utterly new possibilities are given by the method of producing 3D models of people's injuries when identifying a living person or examining a corpse. It provides a special way of capturing the objects that drastically differs from making a photo or a video.

PP-170

Mitochondrial DNA and 17 Y-STR Loci Analysis from Turkey

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Mitochondrial control regions of 112 unrelated individuals from different geographical regions of Turkey were analyzed. Whole mitochondrial control region were sequenced with 10 primers. 201 variable positions were observed and 111 different haplotypes were determined in 112 samples. According to our findings, there are high frequency of Western Euroasian haplogroups in Turkey. 31 % of the people from Turkey are haplogroup R0. Other common clusters are K1a(5,4 %),H5(5 %),T2(3,6 %) and U3(3,6 %). The data obtained were also compared with other populations. Y-STR analysis of the same samples were done with 17 STR loci. The percent of the uniqueness is 99.1 % in Y_STR analysis and the most common haplotype was observed in 2(1.77 %) individuals.

PP-171

Is the body height correlated with the foot length? A preliminary Tunisian male population study

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Aim: to study the correlation between the body height and the foot length in a Tunisian adult male population.
Material-methods: This study is prospective. The body height and both feet length of 112 Tunisian adult males (age-range from 18 to 89 years) were measured during autopsies performed in the department of Forensic Medicine of the University Hospital "Fattouma Bourguiba" of Monastir (Tunisia). The correlation regression coefficient "r" between the measures items was evaluated.
Main results: The correlation regression coefficient "r" between the right and the left foot length and the body height was respectively 0.457 and 0.452. These values show a medium positive correlation between these measures. For persons under forty, the correlation was slightly better (r: 0.520 for the right and left foot).
Conclusion: Foot length measurement is not reliable enough to estimate the body height because of skeletal individual variations and abnormalities occurring mainly after forty. Under this age, it is an approximate method which could be acceptable in cases where there are not other parts of the body to be measured.

PP-172

Patterns of traumatic and heat-related fractures of blunt forces and gunshot lesions on cremated bone

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Background: Arson can be very destructive on human tissues and is in fact used as an attempt to destroy a corpse and to hinder identification or signs of trauma. If characteristic features of blunt and gunshot lesions on fresh bone are well-known, in cases of charred remains the challenge of a pathologist becomes tougher. Hence, can trauma features be reliable even in case of charred remains? And what kind of alterations do they undergo?
Method: Two kinds of lesions were created in two groups of bovine skeletonized ribs: nine samples were hit with a hammer creating blunt force lesions, while each of the other eleven samples underwent a shooting test creating a gunshot wound. Then, in order to simulate severe combustion, a charring cycle in an oven led to the complete calcination of the samples. Patterns and metric parameters of every bone fracture were recorded and compared before and after carbonization, in order to evaluate the effect of heat, such as the appearance of new fractures (heat-fractures) or significant modifications of pre-existing fractures.

Results: First of all, Student's t-test and ANOVA tests clearly demonstrated how heat can effectively affect fracture features and new fracture formation on bone in both groups; in the case of blunt force fractures heat affected the dimensions of fractures in an unpredictable manner, whereas in the case of gunshot lesions heat definitely caused an increase in the length of radial fractures. Secondly, in the shot samples the number of new fractures (heat-related) is significantly higher, most of which radiating from the entry wound but some also longitudinal and transverse.
Conclusion: The highest number and type of fractures in shot samples could be due to the weakness of the bone, in the sense that the full-thickness of the gunshot wound makes the bone weaker than in the case of blunt force lesions, where the lesion is only depressed. In case of gunshot wounds heat can reliably yield an increase in the fracture length, while this cannot be surely stated with blunt force fractures. Thus, morphological and metric alterations of fractures related to trauma and the appearance of new heat-related fractures must be taken in serious consideration when a pathologist has to deal with charred remains.

PP-173

Radiographic and morphological study to estimate the adult individual age in the clavicle

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Currently, the estimation of the age is one of the most important issues to identify human remains in the forensic anthropology area. However, it can be difficult in some forensic cases because the methods don't have a very good correlation between chronological and biological ages in adult individuals. For this reason, it is important to develop other studies in this area, in order to improve the actual tecnhiques. The aim of the present study has been the creation of patterns of morphological variability to relate them to the age. To start, 280 standardized clavicles radiographic images have been done using the known sex and age bones from "The School of Legal Medicine of Madrid" collection. On them, some morphological patterns have been created using the anterior and posterior clavicle cortical thickness and density, and the medular cavity, and esternal and acromial extremities trabecular system. The results show a high descent in the anterior and posterior cortical thickness, and the trabecular system density, according to the age increase. In addiction, some trabecular diameter growth patterns have been related with the age advance. In conclusion, the morphological parameters studied are some useful tools to create some new techniques to improve the adult age estimation in forensic cases.

PP-174

Here's looking at you, Fordisc®…

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Introduction: In the framework of forensic anthropology, osteometric characteristics are often preferred in estimating the biological profile of unknown skeletal remains, in particular assessments of sex and ancestry. Fordisc® was developed to facilitate sex, ancestry and stature estimation of skeletal remains using Howells database and FDB as reference samples. The authors have pointed out repeatedly that an acceptable rate of reliability can be achieved when two basic rules are followed – an assessment must be based on the maximum number of measurements and an unknown specimen must belong to one of the reference samples. In practice, however, there are many cases when a fulfilment of these two conditions is difficult and thus a very unsatisfactory rate of reliability is to be expected.
Objectives: The main goal of our study was to assess the reliability of discriminant functions generated using Fordisc® 3.1 software when applied on human crania, which have no relevance to Fordisc reference populations.
Materials-methods: Sex and ancestry determination of 914 crania of known sex from six different skeletal collections (Athens, Coimbra, Lisbon, São Paulo and two collections from Prague) was carried out. Crania were analyzed using 13 cranial measures computed from 3D Cartesian coordinates of landmarks. Computation of measurements is being used with an increasing frequency in anthropological examination due to expansion of modern data acquisition methods. Discriminate functions derived from both Howells and FDB database were used to assess sex and ancestry.
Results: The accuracy of sex determination varied between 65 % and 90 % depending on specified ancestry. The crania were assigned to their historically or geographically related reference population at a rate exceeding their odds but not with the widely accepted reliability of 95 %. Even with a limited number of variables Fordisc 3 was able to correctly classify some of the crania from independent samples. Still, a large number of specimens are clearly misclassified and the software provided no clue to reveal these cases. Our results support the assumptions that the reliability of Fordisc® 3.1 is limited when the complete set of measurements is not available for the analysis and specimen doesn´t belong to the reference population. Therefore, true serviceability of Fordisc® 3.1 in the European and non-European context and its true merit for the anthropologists has to be further discussed.

PP-175

Anthropological, histological and genetic features of three Neolithic skeletal remains from an Apulian town (Italy)

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In 1997, a monumental burial was discovered in Rutigliano, a little Apulian town (Italy), dating back to Final Neolithic Age (4th millennium B.C., Diana culture). The grave contained skeletal remains of three males, two of about 25 years old (individual 1 and individual 3) and one 18–20 years old (individual 2).

The aim of the study was to define physical characteristics, life habits, health conditions and possible parental relationship between them.

According to our study on both morphometric and metric features, the individual 1 was 171 cm ("tall height class"), the individual 2 was 152 cm (under the "average height class") and individual 3 was 159 cm ("short height class").
Body biomasses were 67 kg, 55 kg and 47 kg for individual 1, individual 2 and individual 3, respectively.

Enamel hypoplasia frequency, that is an indicator of nutritional deficiency linked by calcium uptake or disease with fever, was analyzed in order to evaluate the health conditions of the three subjects. Individual 1 was in good health conditions, showing 3 hypoplasic lines, individual 2 and individual 3 were in bad health conditions, with 16 and 13 hypoplasic lines, respectively.

All subjects presented no dental caries, abscess, intra vitam dental losses and 1°-3° degree tartar.

All the above conditions of the three subjects resulted in a good dental hygiene.

High-grade osteoporosis was histologically detected with intense rarefaction of bone trabeculae and enlarged of medullary spaces.

Biomechanical stress indicators analysis showed a modus vivendi characterized by hard and lasting ergonomic activities for individual 1, reduced workload for individual 2 and poor workload for individual 3.

Paleonutritional analysis revealed a rich and balanced diet for the individual 1, with good protein and cereal contribution, unlike individuals 2 and 3.

The finding of three individuals in a monumental grave allows us to suppose that the skeletal remains belonged to related upper class persons. The parental relationship between them was revealed by genetic analysis, using a modified protocol for extracting DNA from human bones and a specific amplification protocol for degraded DNA. The result was the characterization of hypervariable small genomic regions, called miniSTRs, usefull for identification of ancient skeletal remains.

PP-176

Cranial Sutures As Age-At-Death Indicators In The Elderly

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Background: Estimating age at death in adult individuals is one of the fundamental steps when studying human skeletal remains. Nevertheless, it represents one of the most difficult challenges for forensic anthropology.

For years, methods to estimate age at death have been studied and different results have been reported by investigators.

Age-at-death estimation methods depend significantly on the skeletal elements available for analysis. The skull has been one of the most studied elements of the human skeleton used for that purpose.

The Luís Lopes Collection, from which our sample is derived, comprises of 1692 identified and 75 non-identified skeletons of individuals born between1805 and 1972, and who died between 1880 and 1975. These skeletons were removed from three cemeteries in the Lisbon area. The ages of the individuals range from newborn to 98 years. Most individuals in the collection belonged to the low and medium socio-economic classes.

Method: The sample from the Luís Lopes Collection initially comprised of 200 individuals older than 55 years. It was later reduced to 116 individuals because some skulls, whose preservation did not allow for the correct observation of the sutures, had to be excluded. The final sample consisted of 49 males and 67 females (n=116) who ranged in age from 55 to 94 years.

Every skull was macroscopically observed. The three studied sutures (coronal, sagittal and lambdoid) were divided into segments. The coronal suture and the lambdoid suture were divided into three segments, this both on the left and right sides of the skull; the sagittal suture was divided into four segments. Each segment was assigned a score from zero to four (0- suture completely open; 4- suture completely obliterated).

The mean of the segment scores of each suture was calculated and registered.

Statistical analysis was performed on the entire sample.

Results and conclusion: No satisfactory estimates of age were yielded for most of the sampled individuals. Correct age estimations were obtained in only 44 of the 116 individuals (37.93 %) using the coronal suture (Wilcoxon Z=−1,925; p=0,054) or the sagittal suture (Wilcoxon Z=−0,059; p=0,953) and, in the case of 36 individuals (31.03 %), using the lambdoid suture (Wilcoxon Z=−5,736; p=0,000). Cranial suture closure is neither an accurate nor a reliable method for estimating age at death in older populations.

PP-177

A flow-chart for estimating age of unaccompanied minors

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This paper presents a flow-chart for estimating the age of subjects without identification papers, applying Italian legislation covering unaccompanied minors. The flow-chart is arranged as a decision-making tree, in which the first step is physical examination and, if secondary sexual characteristics are fully developed and there are no obvious signs of abnormal growth, X-rays of teeth are studied. If the roots of the seven left mandibular teeth, between the central incisor and the second molar, are completely developed, we then study the I3M of the third molar. If the I3M idex value is less than 0.08, or third molars are not assessed, we study the clavicle which, if fully formed, indicates that the subject is an adult at probability 99.9 %; otherwise, probability is 96 %. In all other cases, the subject is a major, with probability less than 60 %.

PP-178

Body Mass Estimation In Polish Modern Population

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Background: The forensic anthropologists using different methods are able to estimate the, sex, biological age at death, stature of a skeleton with a relatively high degree of accuracy. Estimation body mass from the skeleton can be useful addition to analysis in forensic investigations involving unidentified skeletal remains. Body mass can be estimated from stature and bi-iliac (maximum pelvic) breadth, femoral head breadth.

Unfortunately, the accuracy of body mass prediction from skeletal remains will always involve significant inaccuracy. It is due to the high variability of soft tissue thickness and because high accuracy of body mass estimation proves best at average body mass estimation, disregarding body mass extremes.

The present study includes group of widely differing body types individuals of modern Polish populations for purpose to test body mass estimation methods from pelvic breadth and femoral head breadth.

Method: Multi-slice computed tomography (MSCT) was performed in Department of Neuroradiology at Poznan University of Medical Sciences using the 64 slice CT. Patients with known age, sex, weight and stature were evaluated to test the relationship morphometric correlation between real weight ant body mass estimated from stature and bi-iliac (maximum pelvic) breadth and femoral head breadth. Maximum pelvic breadth, anteroposterior femoral head breadth and adipose tissue thickness at the abdomen were measured directly from appropriate CT scan slices for each individual. Body mass index was establish for each individual. For the stature/bi-iliac technique, a revised equation was used (Ruff at al., 2005). Three equations based on femoral head breadth were used (Ruff et al., 1991, McHenry, 1992 and Grine et al., 1995).

Results: Body mass prediction methods based on bi-iliac breadth with known stature and the femoral head breadth show strong correspondence. The results of body mass estimation using different methods were in high correlation with normal (healthy weight) BMI. Results of body mass estimation compared with patient known weight showed higher correlation in bi-iliac breadth technique. The accuracy of body mass prediction of underweight and obesity cases (BMI extremes) showed significant inaccuracy.
Conclusions: The equations for estimating body mass from stature and bi-iliac breadth, seem to do quite well in predicting body mass in modern Polish population. In forensic investigations involving unidentified skeletal remains, when bi-iliac breadth can be measured and stature estimated, the stature/bi-iliac technique should be use first of all.

PP-179

New Methodologies and Protocols of Forensic Identification by Craniofacial Superimposition

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One of the most important objectives of forensic anthropology is the determination of a victim's identity, a process that always requires a suspect in order to compare ante and post mortem data. Unfortunately, often ante mortem records are unavailable and DNA may be impossible in circumstances where, for example, there aren't known relatives of the supposed victim. Moreover, there are situations where many individuals share the same biological profile (mass disasters; mass graves) a condition that clearly complicates the identification process. In these situations the Craniofacial Superimposition technique (a forensic identification process where photographs of a suspected victim are superimposed over an unidentified skull in order to establish whether they belong to the same person) has been successfully applied to exclude or establish identity. Nevertheless, it is important to notice that instead of following a uniform methodology, forensic experts tend to apply their own approach to the problem based on the available technology and their knowledge and expertise. Having this in mind, in order to establish specific forensic protocols for the application of CS to different scenarios the new methodologies and protocols of forensic identification by craniofacial superimposition (MEPROCS) project aims to propose a common EU framework to allow the extensive application of the CS technique in practical forensic identification scenarios commonly tackled by the European scientific police units and promote the validation and exchange of CS protocols and methodologies among different European organisations (EUROPEAN CENTRE FOR SOFT COMPUTING - Spain; CONSORZIO DI RICERCA SISTEMI AD AGENTI - Italy; EUROPEAN COUNCIL OF LEGAL MEDICINE - Germany; UNIVERSITY OF GRANADA-Spain; MINISTRY OF PUBLIC SECURITY- ISRAEL; FORENSIC SCIENCES CENTRE- UNIVERSITY OF COIMBRA-PORTUGAL; MINISTERIO DEL INTERIOR- Spain).

The objectives of this project concern the 1) definition of standard protocols for the application of CS to different forensic scenarios; the2) Specification of objective and automatic validation techniques for the CS identification results; the 3) Simplification of the defined CS processes to promote their extensive application; and 4) the dissemination of the results. The MEPROCS project aims to propose a EU framework and methodology for forensic science to provide an objective evaluation of the forensic identification results achieved by CS.

PP-180

Clavicle Superimposition for Human Identification: Quantification of Perspective-Effects Induced by a 'Point' Source of X-Rays

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In forensic anthropology, the comparison of ante- and postmortem (AM & PM) radiographs is routine for human identification. The clavicle lends itself to these comparisons because: it is routinely captured on chest radiographs (= the most frequently recorded clinical x-ray); resists field degradation; and possesses large variance in shape. Radiographic comparison of the clavicles is, however, complicated by perspective of the osseous element relative to a single (and fixed) 'point' source of x-rays. Source-to-image-receptor distance (SID), bone-to-image-receptor distance (BID) and position of the osseous element on the image receptor all potentially influence the shape of the clavicle that is recorded on the radiograph. This study aims to quantify the change in clavicle shape that occurs with manipulation of each of these variables, and to evaluate their impact on the superimposition process.

Twenty right clavicles were radiographed with three different SIDs, three different BIDs, and four different clavicle positions on the image receptor. A total of 36 images were thus obtained for each clavicle. Geometric morphometric methods were used to record the outline shapes of the clavicles using four type II and ninety-six type III (equidistant) landmarks, and deformation grids were computed between the mean shapes using thin-plate-splines (TPS). Linear distances on the radiographs were also recorded and superimpositions of the radiographs conducted.

The deformation grids reveal significant variations in shape of the clavicles between the different conditions evaluated. Shorter SIDs and larger BIDs increased the size of the osseous shadow, as recorded on the radiograph, and movement of the clavicle - from the center of the image receptor to its lateral edge - decreased the visibility of the conoid tubercle and exaggerated the clavicle's sigmoid bend. Linear measurements of the radiographs mirrored these changes.

Superimpositions of ante- and postmortem radiographs of the exact same clavicle are not possible if the perspective of the bone relative to the x-ray source on the AM image is not replicated at PM radiography. An understanding of perspective-induced shape change is crucial for superimposition techniques if the AM morphology is to be quickly and efficiently replicated at PM radiography. Quantified modeling of these shape changes may prove useful for automated searching of AM chest radiograph libraries using 3D laser scans of clavicles.

PP-181

Quantifying Thermal Damage on Bone with the Aid of Novel FTIR Absorption Peaks

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Background: To a forensic anthropologist, bone has the potential to reveal insightful information about an individual's life and death.

Professionals of multiple disciplines have an interest in comprehending the changes undergone by bone subjected to thermal damage; be it archaeologists wishing to understand ancient burial practises or forensic professionals tasked with the reconstruction of an accident or crime scene. Conventionally, the Crystallinity Index (CI), which is defined by the splitting of the two absorption peaks at 605 and 565 cm-1 when using spectroscopy as a means of analysis, has been utilized to gain an understanding of the degree of heat exposure undergone by the bone; bone which has been heated exhibits larger hydroxyl apatite crystals, forming a more ordered structure. This present study is investigating the use of new absorption peaks in order to determine the burning time and temperature of bones more accurately. These ratios are CO/P with FTIR absorption peaks ratio of A1650/A1035, C/P=A1415/1035, CO/CO3=A1650/A1415, CO3/P=A900/A1035 and the Phosphate High Temperature (PHT) which is calculated A625/A610.

Methods: Research was carried out using long bones from domestic sheep (ovis aries) which were experimentally burned in a furnace for 45 minutes at temperatures between 100°C and 1100°C in 100°C increments. Samples of the periosteal surface of the diaphysis of each bone were collected and analysed using the Nicolet 5700 FTIR-ATR, which exhibits the optical range of 30 000 cm-1 to 200 cm-1. The spectra are used to calculate the CI as well as the new ratios: C/P, CO/CO3, CO/P, CO/CO3, CO3/P and the PHT as well as the line width, which is defined as the full width at half the maximum of the phosphate peak at 1035 cm-1.

Results: Analysis of variance, principle component analysis and linear discriminant analysis were carried out on the data; blind tests utilizing these new absorption peak ratios found the rate of accurate temperature prediction using a combination of the newly calculated indexes to be 96.3 %.

Conclusions: Research at Teesside University has shown that the indexes mentioned above can predict burning temperatures accurately in over 95 % of the experimentally burned samples, which is a significant increase in accuracy compared to the 66.7 % obtained when only the CI was used. These findings are highly promising in the advancement of burned bone analysis.

PP-182

Towards an algorithm for determining age ranges from faces of juveniles on photographs: a tool for detecting juvenile pornography and for face aging

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Background: In the last years the analysis of faces has gained great interest in forensic anthropology, both for personal identification and for the issue of juvenile pornography. The age of the victim has a crucial role for ascertaining the crime of juvenile pornography, but methods of aging which use the assessment of sexual characteristics have proven to be too subjective and deceiving for age estimation. The application of facial landmarks may bring about relevant advantages for the analysis of 2D images by measuring the distances and extracting quantitative indices. This study aims at evaluating the modification of facial indices with age on pictures.

Methods: The experimental project includes two phases: during the first one 2046 photos in frontal view and 2043 in lateral view were taken from Caucasoid subjects aged between 3 and 32 years without relevant pathologies and facial deformities. The photos underwent analysis with Mathworks Matlab, via the collocation of 22 landmarks on faces taken in the frontal view and 11 in the lateral view. The inter- and intra-observer error in definition of each landmark was also evaluated. In the second phase 18 anthropometrical indices for the frontal view and 5 for the lateral view were calculated by distances between different landmarks; the correlation with age was evaluated.

Results: Both in the frontal and lateral view the landmarks which showed less dispersion were the pupil (pu), cheilion (ch), endocanthion (en) and stomion (st); the landmarks with the highest dispersion were gonion (go), zygion (zy), frontotemporale (fr), tragion (t) and selion (se). In the lateral view the landmarks with the least dispersion were selion (se), pronasale (prn), subnasale (sn) and stomion (st), whereas landmarks with the highest dispersion were gnathion (gn), pogonion (pg) and tragion (t). Indices showing a possible correlation with age were ch-ch/ex-ex, ch-ch/pu-pu, ch-ch/ft-ft, en-en/ch-ch and se-sto/ex-ex in the frontal view, se-prn/se-sn, se-prn/se-sto and se-sn/se-sto in the lateral view. As concerns correlation of the indices with age, though with some error, ch-ch/ex-ex, ch-ch/pu-pu and se-sto/ex-ex do seem to relate with age even on photographs.

Conclusion: results show that anthropometric studies on 2D images must be preceded by the assessment of the reliability of the positioning of facial landmarks in order to avoid gross errors. In addition the metrical data derived from the experiment may provide interesting insight for aging faces from pictures and for face aging techniques.

PP-183

Virtual 3D reconstitution of human skeletal remains in forensic context: benefits and costs

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As far as forensic anthropology is concerned modern 3D virtual technologies enable to apply new approaches in order to answer traditionally asked questions, i.e. what is the identity of a person, when did he/she die and what was the cause of death. While dealing with skeletal remains, forensic anthropologists frequently examine evidence that is fractured, deformed or otherwise altered by a variety of peri mortem or post mortem factors. Consequently, it is often required to restore the original bone integrity to a degree that would allow a proper anthropological examination, personal identification included. Traditionally, a layer of synthetic material (glue or resin) is applied between fragments in order to assemble bones permanently or temporarily. Virtual 3D reconstitutions offer a helpful assistance for the task as they are non-invasive, contactless and allow creating as many possible scenarios of a given situation as wished.

As it is up to professionals to balance advanced, but costly and time-consuming techniques with traditional ones, they must be aware of all benefits and costs. The contribution will present a critical review of the virtual 3D restoration approach based on a forensic case involving 3 victims found in a deep mass grave in a poor state of preservation with heavily fragmented skulls. The presumed peri mortem cranial injuries had been altered by a severe post mortem destruction and decomposition. As the traditional restoration approach was impossible to carry out 3D virtual approach was employed in order to state the cause of death and its mechanisms. In the process, all fragments were scanned with a laser scanner, assembled using 3D modeling programs and further adjusted with a virtual clay tool modeling program. The final virtual 3D

reconstituted skulls enabled to identify gunshot injuries on all three victims and distinguish mechanisms of observed damage.

PP-184

Age estimation by rib-phase analysis in Indian females

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Introduction: Currently there are different parameters available to determine the age of a person like study of teeth, ossification of bones and other ancillary data, but the reliability of these measures is only limited to a particular age group i.e. less than 25 years. The Iscan's phase method for the estimation of adult age at death from the sternal extremity of the fourth rib was introduced in 1985. Over the years, numerous tests have confirmed the reliability of this technique on varied samples in different age groups.
Aim: To determine the age of the individual at time of death using rib phase analysis in Indian male population.
Material-methods: 205 samples of sternal ends of the right fourth ribs belonging to Indian female population with known age at the time of death. Each rib was phased using the standards developed by Iscan and associates in 1985. The phase estimations were then subjected to an analysis of variance.
Results and conclusions: The results of the study indicated that Indian female ribs show the same morphological characteristics that define the phases at nearly identical ages. Variation as measured by the standard deviation increased from phase 5. In conclusion, this study demonstrated that the rib phase standards can be accurately applied to Indian females. Investigations of this nature are vital because one cannot assume that a method developed from one group is applicable to a distant population, especially in medico-legal proceedings.

PP-185

A forensic anthropology study of a mass grave belonging to world war one

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Background: The study presented consists in the forensic anthropological analysis of seven skeletons recovered in a World War One Mass Grave on the mountains of the Veneto Region (Site of Soglio Melegnon di Arsiero, Vicenza, Italy). Although the finding of skeletal remains belonging to World War One is not such a rare phenomenon on the mountainous areas which had been involved in the First Conflict, it is rather exceptional, on these mountains, to find a mass grave with soldiers in primary burials.
Methods: The skeletons were recovered using archaeological methods. Moreover the grave was scanned with a 3D Laser Scanner. The biological profile was defined by sexing, aging, stature and ancestry determination according to standard anthropological methods. Pathologies and stress markers were evaluated; an extensive study was conducted on skeletal trauma in order to establish the type of trauma and ammunition involved.
Results: Except for one case the skeletal remains were in anatomical connection and in primary burials. Four soldiers lied prone, two subjects were lying on their side. Only two soldiers had personal effects: one had a badge concerning military vaccinations, the other had religious medals. By the remains of the uniforms it was deduced that all individuals belonged to the Italian army. The anthropological study revealed the presence of seven male subjects, of ages included between 18 and 35 years. The soldiers showed diseases of a degenerative type, occupational stress (enthesopathies) and, in one case, metabolic stress (cribra orbitalia and cribra cranii). The study of injuries revealed a surprising variety of types of lesions, mostly lethal: a few subjects were struck by a Shrapnell grenade, one soldier was certainly torn apart by a grenade explosion. Two soldiers showed handgun shots (9 mm) to the skull. On the basis of the location of entry and exit wounds and the direction/angle of the shots it is plausible that these were executions. Scanning Electron Microscopy coupled with Energy Dispersive Xray Spectrometry allowed us to detect metal residues related to Shrapnell and grenades.
Conclusion: The study carried out on this rare case of a mass grave belonging to World War One, allowed for the recovery of a piece of buried History; from a forensic point of view it allowed for the observation of several kinds of perimortem injuries caused by different WWI weapons.

PP-186

Estimation of Stature From Hand And Handprint Measurements in Anatolian Girls: A Preliminary Study

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Estimation of adult height from long bones plays an important role in forensic examinations. In modern forensic anthropology the investigator not only interests in skeletal remains. Percutaneous body measurements are also known to give reliable results.

In the present study the relationship between various dimensions of hands and body height were evaluated for the Anatolian population. Besides the measurements from hands and handprints were also evaluated related with stature since hand prints were easily left in crime scene. The purpose of this study was to analyze anthropometric relationships between dimensions of the hand, handprint and body height. In this preliminary study the correlation of stature and various measurements of hands have shown along with the multiplication factors used to estimate the stature from these relationships between specific measurements and stature.
Materials-methods: The study consists of a sample of 85 female university students from several parts of Turkey, but living in Ankara at the time of the study. The mean age of the sample was 21.40±3.22. The images of the right and left hands were acquired by using a flat bed scanner. The seven measurements on each hand were acquired with a sliding caliper respectively. Correlation analysis and linear, multiple regression equations for stature estimation were calculated using the aforementioned variables and multiplication factors were computed.
Results: The mean stature and mean length of the left and right were 1634.83 (S.D. 57,21) mm, 174.65 (S.D. 7.35) mm, 174.40 (S.D. 7.47) mm. Correlation coefficients between stature and all the measurements were found to be positive and statistically significant. The highest correlation was observed between right hand length and stature (0,607; $p<0.01$). Prediction of stature was found to be most accurate by linear regression analysis.
Conclusion: This finding indicates that the hand length provides the moderate reliability and accuracy in estimating stature of an unknown

female. In forensic field measurements from hand could also be used for the estimation of stature. It may consider differences between populations to apply such functions to other populations. The comparisons made with other population could contribute to understanding of the relative status of our population in the context of the anthropometric variations around the world.

PP-187

Facial Reconstructions on Two Historical Skulls

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Facial reconstruction is not only used for forensic cases, it is also useful at some historical cases. There have been many studies on the historical skulls. These studies have been practiced on famous people's skulls or unidentified people's skulls. Similar studies were practiced in Forensic Medicine Institution Laboratory. The two cases which will be presented here are unusual because of their reconstruction being done at the excavation site.

Cases: Metropolis is an ancient city which was built on today's Smyrna's Torbalı county 5000 years ago. There has been an excavation since 1992. Since then, many human bones have been retrieved from the excavation site. Dr Çağdır carried out investigations on the human bones and performed two facial reconstructions at the excavation site in the summer months of 2008 and 2009. In 2008, a facial reconstruction was performed on a 30–35 years old Roman's shattered skull. Also in 2009, a 20–25 years old woman's skull had a facial reconstruction whose body was retrieved from a grave. Thanks to the fact that woman's whole skeleton was retrieved, all of her bones could be studied. Busts which were built on these two different skulls were prepared to be presented.

Conclusion: In the field of Forensic Sciences, multi-disciplinary working has an important value. It is important to determine the age of the studied bones which are retrieved from the excavations. This is the reason why it is important for Forensic Medicine experts to gain experience on the excavation sites. Facial Reconstruction is an application which helps to the identification of missing people. Nevertheless, the facial reconstruction of the historical skulls are important for the history and archeology sciences.

PP-188

Presentation of Case on Identification by the Aid of Facial Reconstruction

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One of the operations related to the identification of the unidentified skeletal remnants, is facial reconstruction. The skeletal remnants which are unidentified are sent to Istanbul Council of Forensic Medicine (ATK)

The photographs related to the facial reconstruction which, are included in ATK's facial reconstruction laboratory, are sent to prosecution offices in order to find the missing people. In ATK laboratory, both 2D and 3D facial reconstructions are practiced. In 3D reconstructions, "Istanbul method" is applied. This method is based on tissue depth principles and tissue depths are measured by callipers. In this presentation, one of ATK's facial reconstruction cases which gave a positive result will be presented.

Case: A mandible skull and 29 pieces of bones, which were found in a forest in Mersin, a city in Akdeniz region of Turkey, were sent to ATK to be investigated on. After the investigations, it was found out that the bones belonged to an adult male. A firearm wound was spotted on the skull. Then a facial reconstruction of the skull was constructed and the acquired facial photographs were sent to the prosecution office. In return, the prosecution sent a photograph of a missing person to ATK in order to be compared with the acquired photo from the facial reconstruction. Upon the comparison, a remarkable similarity was discovered between the two different photographs. Finally, with a DNA analysis, it was confirmed that the bones were belonged to the missing person.

Facial reconstruction is one of the succesful methods practiced in identification processes. ATK has played a crucial role in many identifications of missing people with the usage of this method.

PP-189

Three Dimensional (3D) Forensic Craniofacial Superimposition

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The main aim of Forensic Anthropology is the identification of human beings from their skeletal remains. Craniofacial superimposition, one of the forensic process of craniofacial identification, is employed for the identification of the unidentified skulls. An antemortem facial image (photograph or video frame) of a missing person and an unknown skull are compared each other by the projection of the skull into the face image in order to establish whether that is the same person.

In this study, three dimensional (3D) craniofacial identification is described. After reviewing 3D craniofacial superimposition procedure and 3d devices used in this process, a case study is presented.

PP-190

Comparison Between Trotter Glesser's Formula with Atmadja's Formula on the Height Examination on Human remains of Second World War Japanese Soldier in Biak, West Papua

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Background: Around year of 1942–1945 on Second World War, Japan fleet about 44.000 of their armies to occupied West Papua, Indonesia. But, unfortunately there are aready occupied by US Army under the command of General Mc.Arthur and the war cannot be resist. Many soldiers died in that incident. For Japanese Culture and Religion, the Human Remains should be identified and cremated so they can be released and have another journey of their spirits life.

Method: We separate the human remains between caucasoid and mongoloid bones, diffferentiate the animal remains also other artefacts and fragmented bones. The Human remains of the long bone such as Femur, Tibia, and Fibulas were height measure by Trotter Glesser's Formula and by Atmadja's Formula.

Result: After a long bones measurement and comparison it between the both formula, we conclude that there has been about ten centimeters differentiation between them. And the most appropiate measurement of the height of the human remains of Japanese Soldiers is using the Atmadja's Formula after we matched it with the height measurement of the identity some of the Japanese soldiers.

Conclusion: Even the appropiate measurement of human remains for Japanese soldiers is using atmadja's Formula, but there are still need

more continuing research for having the best Method on Forenisic Anthropology.

PP-191

Forensic anthropology and criminal investigation - the importance of an interdisciplinary approach

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The authors present a case where a joint and thorough interdisciplinary approach between the forensic anthropologist and the investigative police agency, although in a suspicious setting, allowed a successful identification of human remains.

A skull was initially found in the surroundings of a jail house, under a fallen tree. The rest of the skeleton, except for the bones of both feet, left forearm and left hand, was recovered afterwards. In laboratory, the forensic anthropologist analyzed the human remains, built a biological profile of the remains and detected bone traumatic injuries. The human remains were that of a European origin male, estimated age between 30–50 years, whose stature was 170±6.9 cm. Antemortem, perimortem and postmortem bone traumatic injuries were present. Entomological specimens were sent to analysis to assist in determining the postmortem interval.

The biological profile along with antemortem bone traumatic injuries and estimation of the postmortem interval allowed the investigative police agency to narrow the search for the decedent's identity from the initial 220 missing persons in the inmate population and to ultimately confirm the remains' identity with genetic analysis.

Definitely perimortem injuries, located in the base of the skull (including petrous right bone) and mandible were considered as assisting cause of death. Longitudinal linear fractures on the long bones of the inferior limbs could not be definitely assessed as perimortem or postmortem due to sun exposure and absence of the feet and the distal extremities of the fibula.

Through a complete description of the forensic anthropological analysis and the police investigative work, the authors demonstrate the need for an interdisciplinary approach, fluent in bidirectional communication flow, in order to successfully identify human remains and establish a cause of death.

Even though in the reported case the circumstances of death were not clarified, justice was served and the deceased was released to the proper relatives.

FORENSIC ENTOMOLOGY

PP-192

Sarcophaga species (Diptera, Sarcophagidae) recovered from human corpses during autopsies in Granada (Spain)

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Background: Genus Sarcophaga (Diptera, Sarcophagidae) consists of a group of species considered to be very useful for the establishment of postmortem interval since the dawn of Forensic Entomology. Some species are characterized by reaching the corpses in initial stages of decomposition (primary colonizers); others, by contrast, have a great interest as component of the faunal succession in corpses in advanced stage of decomposition. Despite the undeniable interest of these insects, very little is known of their biology. In this work, we analyze the occurrence of this genus during judiciary autopsies performed in Granada (SE Iberian Peninsula) in order to assess their interest as forensic indicators.
Method: Autopsies were performed according to the guidelines of the European legislation and the sampling of entomological evidences was fitted to the standards of the European Association for Forensic Entomology (EAFE). Those immature stages that could not be identified through larval morphology were reared under controlled conditions in a breeding chamber at constant temperature and humidity with liver of pig ad libitum. Only adult males were identified directly after dissection of their genitalia, one of the most important morphological features when it´s necessary to discriminate species in this family. Some females, which retained larvae in the abdomen, were fed up to larviposition and, from the resulting adult males after breeding, an indirect identification could be performed.
Results: in all forensic cases that occurred in the period 2010–2011, Sarcophaga genus have been sampled in 45 % of the cases where some kind of entomological evidence was recovered. Sarcophaga (Bercaea) africa (Wiedemann, 1824) and Sarcophaga (Liopygia) argyrostoma (Robineau-Desvoidy, 1830) were the two most common species. The first was sampled in 32 % of the cases, the second in 43 %. The remaining 25 % was distributed equally among S. (Sarcophaga) carnaria (Linnaeus, 1758), S. (Liosarcophaga) jacobsoni, S. (Sarcophaga) subvicina Rohdendorf, 1937 and cases where we couldn´t manage a satisfactory identification of Sarcophaga larvae or pupae, given the lack of bibliography about preimaginal instars of this family and difficult conditions of rearing. On the corpse, we could only find larvae of S. africa, S. argyrostoma and S. jacobsoni.
Conclusions: the proven occurrence of the genus Sarcophaga shows that certain species of little-known biology may occur in cases of legal interest. The need of answers to their finding in a human corpse implies the obligation of carrying out more research on the genus Sarcophaga and, in particular, on these species.

PP-193

Successional patterns of sarcosaprophagous insects on pig carcasses in Granada (Southeast Iberian Peninsula)

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Background: Forensic entomology is the scientific discipline that uses knowledge about the life cycles and the dynamics of arthropod populations to clarify circumstances related to cases which will be considered in a Court of Law. The two main strategies used to deal with the problem are the study of larval development (for corpses in the early stages of decomposition) and the comparison of fauna found in the body with typical patterns of faunal succession of the habitat where the corpse has been found (for more advanced stages of decomposition). In this study, we describe the successional models for the seasons in which Forensic Entomology cases are more usual in Andalusia (Southern Iberian Peninsula): summer and fall.
Method: The study was conducted during summer 2011 (1 August - 26 August) and autumn 2011 (29 September – 24 October) in two agricultural biotopes consisting of vacant lots without any vegetal cover, arid soil and enclosed with a fence. Two domestic piglets, Sus

domesticus L., of of 19 to 22 Kg weight were killed per season by penetrative captive bolt and disposed in the sampling sites within the next 2 hours. In order to avoid incomplete and biased successional inventories, we used a cubical trap based in the same functional principle of Schoenly, with a lower removable sandbox with pitfall traps to ensure the sampling of "walking scavengers". Statistically, we only included in our model indicator species according to the IndVal method (IndVal index>25).

Results: A total of 11507 individuals of the order Diptera, belonging to 17 families, were sampled. Coleoptera were represented by a total abundance of 1092 specimens agrupated in 12 families. Many families were discarded in the statistical analysis. Significant differences in the faunal composition between both seasons have been observed. Species found in both sampling periods showed differential behavior in their appareance and residence periods, perhaps because of the drop in temperatures in the fall.

Conclusions: These differences allow us to conclude that successional studies covering the entire annual climate spectra are necessary to avoid incorrect inferences. Similarly, a larger number of biogeographical regions within our peninsula must be covered with these studies with the aim of knowing the variations due to local fauna.

PP-194

Edaphic fauna and buried corpses: arthropods found in coffins during exhumations in Granada (Spain)

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Background: Mateo Orfila and Pierre Mégnin were the first researchers that exploited exhumations to summarize the fauna associated with corpses. While Orfila simply enumerated the species he found, Mégnin laid the cornerstone for the forensic entomology when he grouped species in eight waves called "workers of the death". Since then, many studies were performed but very few dealt again with the problem of buried corpses and the information that exhumations can provide. In October 2008, a series of restoration works began at the San José graveyard (Granada, Spain). In order to move to an ossuary those corpses which were not claimed within a period of one year, 20 non-judiciary exhumations were performed. We focused our sampling on mites (Acari: Oribatida, Prostigmata and Mesostigmata) and Collembola. We wanted to test if there were differences among the faunistic composition of burials with different Post-burial Intervals (PBI).

Method: Sampling of mites and collembola was conducted in three stages. First of all, we took dust samples with a manual vacuum above and below the body, taking special care on the bottom and corners of the coffins. Second, we removed manually pieces of soil that penetrated through the chinks of wood. Finally, we inspected again the corpses and coffins once removed the corpse and running arthropods were captured with the help of a brush soaked in saline solution. Dust collected by manual vacuuming was processed by a flotation method in a sodium chloride saturated solution (Arlian method modified by Solarz). Soil found in the tombs were sampled with the help of Tullgren funnels using ethylene glycol as preservative liquid.

Results: In a preliminary analysis, we grouped the fauna of each group (oribatid, mesostigmatid, prostigmatid mites and collembola) in 17 morphotypes, without identification purposes at first. Subsequently, we were able to observe an association between the occurrence of certain species and PBI, given the significative differences observed in the faunistic diversity of each group of exhumations. The biggest differences could be appreciated in the range of 5–10 years PBI, while certain stability was found in the first 1–5 years.

Conclusions: Given that we have observed significantive differences among groups, we can assert that the edaphic fauna can be used apart from the classic forensic markers (Diptera and Coleoptera) in the assesment of the postmortem interval, when burial is close to the time of the death.

PP-195

A Mistake In Entomological Investigations Into Drowning Case In Water A Case Report

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Purpose: An investigation of structures like white insect eggs found on a drowning case in water, determination of whether they have got an entomological value.

In forensic science, the field refers to Forensic Entomological, which examines of information obtained from entomological evidence in solving of case. While forensic cases are solving, entomological information collecting on or around corpse is very important. In toxicological investigation and location, time, reason of death, insects and their eggs are used. In order to make investigation on cases, there is a requirement of professionals who are brought up in this field.

Case: In 11 December 20111, a corpse who drowning in 2 metres dwell which was dig for train subway was found in Eskisehir. The corpse was taken into the Osmangazi University forensic medicine institute. The experts observed white foreign matters locating around eyes and in nose, ear and mouth. These white foreign matters were like to insect eggs packets and were asked to make an entomological assessment. Since the season was winter and the temperature was below zero, the data which were thought to be entomological were supposed very amazing and important because insects don't bring their eggs in winter. In addition, it is important to reach data about how the case occurred owing to find terrestrial insect eggs on a corpse taken out water. But it was understood that white matters mass was not insect eggs but styropor particle in consequence of making entomological analyses.

Discussion and conclusion: Insects provide important biological data to enlighten forensic case. In this case, the entomological data which was found on corpse being take out water gave rise to thought that the person was killed before to throw, then waited a little time and then thrown to water. As a result of making investigation by entomologist, it was seen that the data did not have an entomological value. Forensic entomology institute was a field to improve in Turkey. We were satisfied that it was useful for the period of Forensic science with conducting project and shared studies, taking support from other forensic science field,being known the forensic entomology science field.

PP-196

Investigations on Development Stages of Lucilia illustris Meigen (Calliphoridae: Diptera) in Terms of Forensic Entomology

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Calliphoridae family larvae are important for forensic entomology. For that reason development biology of larvae are very important.

Larvae and adult stage nutrition habits are different at members of that family which get holometabol metamorphosis. In generally Calliphoridae species lives on that dead or living inn at larval stages. Species that lives on dead inn at larval stage helps for ecological balance by easier to take to pieces and decay. On the other hand classes which lives on living in at larval stage causes "Myiasis" illness. Larvae that have the ability of take texture in to pieces very faster, uses in uncured bruise.

This study make with samples taken by one stations in city Eskişehir. For continue that study putrid hepatic pieces had put at station and egg packets add together over that hepatic. Egg packet which are in Calliphoridae family and the time of larval stages to reach adult.

At that study one base family inculudes one genus and one species Lucilia illustris Meigen, 1826, had fasten down. İt has seen that development of investigated with Lucilia illustris at 17–21 days were finished.

PP-197

Distribution of Diptera Species on Corpses from Ankara and the Cities nearby: The First Study from Turkey

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Background: In forensic research, forensic entomology is the science solving forensic cases by examining arthropods coming to corpses. Mostly, Diptera and Coleoptera can be found on human corpses and animal carcasses. A map of forensic insect fauna in Turkey is needed. The aim of this study was to identify Diptera species in Diptera larvae on suspicious deaths and to determine the fauna in Ankara and the cities nearby.
Method: Specimens containing entomological evidence were collected from corpses referred to The Council of Forensic Medicine Ankara Morgue Department by the courts. After the larvae were killed in boiling water, they were dried, put in tubes containing 96 % alcohol and sent to Ankara University, Institute of Forensic Sciences laboratory of Forensic Entomology /Forensic Biology. Species of the larvae were identified.
Results: The larvae on the corpses coming from the cities around Ankara, namely, Yozgat, Corum, Cankiri, Zonguldak, Giresun, Kastamonu, Bartin and Bolu belonged to species of Calliphoridae, Muscidae, Sarcophagidae and Heleomyzidae families. The most frequent species were from Calliphoridae family.
Conclusion: In forensic cases, entomological evidence can be used to determine the link between a suspect and a crime scene and place, manner and time of death. This is the first study to determine the insect fauna in Turkey and underlines the importance of knowing local forensic insect species.

PP-198

Is It Possible to Use House Dust Mites (HDMs) in Criminological Sciences?

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Introduction: It is indicated that some types of HMDs are deemed the most remarkable effects of allergic diseases. Primary food source of HDMs are skin epithelial cells which are available in house dust and scaled off humans. Biological evidences containing DNA constitutes the most important part of crime investigation in criminological sciences. Biological evidences are generally visible materials such as body hair, hair, bloodstain, but also they might be invisible microscopic sizes. Microscopic-sized skin epithelial cells which are available in house dust and containing human DNA may be exampled for biological evidences. Therefore, we think that these microscopic livings may be used in criminological sciences by evaluating biological characteristics of Mites surviving with epithelial in house dust.
Material-method: We collected house dust at random in Istanbul in order to determine if mites are sufficiently available in house dust for the purpose of our study. We developed a special filter apparatus which can be adapted to standard vacuum machines and keep the house dust in order to collect dusts. By using this apparatus, we collected approximately one gram house dust by vacuuming from the bedroom and surrounding of each house on two meters square surface at least five minutes. Saturated saltwater was added on dusts in beakers as it would not pour forth dusts, mixed and floated. House dust mixture obtained from the surface of beaker by using lamella were analyzed under microscope; after description and types of mites found out were determined, they were collected into eppendorph tubes including ethyl alcohol by means of sterilized needle tip.
Findings: Mites were determined in 59 of 60 house researched as a result of analysis of house dusts. Determined mites were 3 kinds, 6 families, 5 races and 2 types which different from each other taxonomically. In 53 of house dusts in which mites were determined, at least of one of kind, family, race and type of mites were fixed. Dermatophagoides mites were found as the most dominating group in house dusts.
Result: In criminological sciences, it is remarkable biological evidence that microscopic HDMs feeding on human skin epithelial is available almost in every house. We are of the opinion that it would not be wrong to say that it shall become important with researches to be performed if these microscopic mites carry human evidences by analyzing in detail.

PP-199

Microscopy at the crime scene: the benefit of new digital devices applied on forensic entomology

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The knowledge of which fly settles on a corpse and under which condition (outdoor vs. indoor, soiled vs. unsoiled) can give early important hints in forensic investigations. Forensic entomology mostly deals with larvae of calliphorid flies which prefer to deposit their eggs on corpses and, in Europe, colonize the body first. However, another group of flies (family Muscidae) is often present on the corpse yet often overlooked. Muscid flies are usually coprophiles, i.e. they are attracted by feces, urine and associated bacteria. Muscid flies are, therefore, an indicator for unsanitary conditions, including severely stained clothing and shoes, and for neglect. On corpses, they are usually found in later stages of decay. Muscid larvae can also infest wounds in living humans or animals, which means they may be observed in myiasis cases.

The muscid genus Hydrotaea is not thoroughly researched and described in forensic entomological literature. Hydrotaea flies are often overlooked because of their size. Their second and third instar larvae predate larvae of flies of other species, some are carnivorous in all developmental stages. They prefer a later as

Some species of muscid and calliphorid flies have adapted to human environments, others are more commonly found in rural habits. For example if a body is moved from a rural to an urban area, the fly species found on the body can serve as indicators for such an action.

Sometimes a quick determination of different flies is possible. For example, muscid and fanniid flies, in contrast to calliphorids, lack hypopleural bristles.

Three case studies show the importance of early identification of the flies and the benefit of a digital microscopy for early identification. For its large depth of field the zoom lens provides a "natural" view and the high quality images can directly be stored on the integrated hard-disk-drive. In particular cases this device can be carried to the crime scene for immediate investigations.

PP-200

Applicability of the Forensic Entomology for Estimaton of Time of Death in Forensic Cases

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Introduction: Forensic entomology is application of insect knowledge to legal matters. Although insects are terrestrial animals as a rule, there are lots of species that adapted all bio types; corpses are important food sources for insects. Insects play an important role in solving legal cases in addition to their ecological importance.

Insects feed, live or breed in and on bodies, depending on the stage of decomposition.

Over the death of days, weeks or even months after the time of the death of a corpse, insects are often the most important indicator in determining time of death. One of method for determining time of death by using insects is determination the age and development phase of maggots that come to bodies after death. Another method is based on analysis of succession of arthropods on, in or around bodies. To use all this information, the biology of insects must be known very well. Our goal is to contribute the time of death for the suspicious deaths by using entomological evidences.

Material-methods: The study includes 113 forensic autopsy cases referred to our institution for determination of cause of death and the postmortem interval between the years 2006 and 2011.

Results: Insects were belong to Diptera and Coleoptera; most common species of flies fed on bodies were Calliphora vicina, Calliphora vomitoria, and Chrysomya albiceps. Among these cases we managed to calculate the time of death in about 85 %, but not in about 15 % (due to improper sample collection, transfer and storage, and deficiencies and/or inaccuracies information).

Conclusion: In this study, we discussed the methodology for using the insects for determining time of death; in order to contribute to determination of the exact PMI and we also focused the need of standardization in the procedures of this discipline in Turkey.

FORENSIC IMAGING

PP-201

Case report: Observation of altering intra-abdominal hemorrhage through CT imagining with time

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Background: Recently, Computed Tomography (CT) is often reported as an effective tool for postmortem diagnosis. However, reports of the utilization of postmortem images to establish postmortem changes are limited.

Case presentation: A drunk 66 year old male was ran over by a taxi at 01:28 after falling asleep on the road. While being immediately transferred to hospital the man lost consciousness and fell into a cardiopulmonary arrest. Despite resuscitation he died. CT images were taken at 02:30. Following this, CT images were re-taken 54 hours after death before a medicolegal autopsy.

Result & discussion: In this case, small amounts of intra-abdominal hemorrhaging was visible in the immediatatly taken CT images. However, the extent of intra-abdominal bleeding observed through CT images 54 hours later was greatly increased. During the autopsy, 1700 mL of intra-abdominal hemorrhage was observed. In addition, mesentery, liver and pancreas injuries were observed. Futher injuries were found during the autopsy included, multiple rib fractures, skin abrasions and lacerations of the head, subarachnoid hemorrhage, pelvic fracture, and right humerus fracture. The deceased's postmortem blood alcohol level was 2.4 mg/mL. A hemorrhagic shock due to the systemic injuries was determined as the cause of death.

The amount of intra-abdominal bleeding found during autopsies may differ from that found at the time of death. As a result, the criteria for the diagnosis of the cause of death in autopsies should be carefully reconsidered, because if autopsies are performed immediately after death, bleeing sufficient to diagnose exsanguination may not be present. Alternatively, the commonly believed extent of bleeding necessary to cause death by exsanguination may need to be revised.

In addition, it is recommended that cause of death is not exclusively determined through CT images and where this is the case CT images are taken over a period of time.

PP-202

Camera Identification for collections of images and video with Photo Response Non Uniformity

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A digital (video-) camera consists of many electronic components. After the image has been formed on the image sensor, the image information will pass through all of the components before the final data file is written to flash memory. Each step in this process may add random noise to the image. Even during the image formation process itself, a noise-like pattern from the sensor may be introduced in the image. This noise-like pattern is a small but measurable systematic contribution to the signal, and is called the Photo Response Non Uniformity (PRNU) pattern. The visibility of this signal is limited and may be a small difference depending on the intensity of the signal. In practice, this means that well illuminated images will result in a better extraction of this signal compared to when the image is dark.

The PRNU pattern itself can be determined from the image and it preferably is done with images with no discernible textures (flat field image, for example from a grey surface). The examining of the PRNU pattern for forensic use is well researched by Jessica Fridrich and others.

In practice, it is not always possible to have the camera for casework; however, it is possible to determine if a set of images have been made with the same camera or different cameras based on the PRNU pattern. By comparing the pattern from a questioned image with the pattern from a set of reference images made with a suspect camera, it can be determined whether the questioned image was produced with the suspect camera or not. This works when the image is authentic, but fails when the image underwent any spatial transformations (e.g., rotation, shearing, resizing) because the "fingerprint" is desynchronized, unless the same transformations are applied to the reference material. It is also possible to alter the image such that the PRNU pattern is filtered out, although this is complicated and time consuming.

The use of large image or video databases, such as child pornography and other databases of relevant images will require significant processing power. For a good comparison, it is important to have the

most original images, or to know exactly what kind of operations have been conducted on the image. Since in casework the ground truth may not be known, conclusions in Bayesian framwork.

PP-203

Brain death confirmation by Cerebral Perfusion Scintigraphy. Ethical and legal value

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The concept of brain death, first described decades ago, still presents medical, ethical, legal and cultural challenges. The legal statements deal with the question of the definition of death and how death can be confirmed. Irrefutable and simple legal definitions of death must be provided before organs may be harvested from brain dead individuals. Consequently legislation updating the concept of death has been published internationally along with organ transplantation programs.

Brain death is defined as total and irreversible cessation of brain stem functions. Its diagnosis is primarily clinical, based on a thorough and systematic neurological clinical examination, and requires the exclusion of all the causes for reversible coma. Therefore the concept of brain death is often difficult to be established clinically and understood by relatives. When the clinical examination is equivocal or limited, the need of a good confirmatory study becomes obvious.

Cerebral perfusion scintigraphy allows the identification of a cerebral perfusion absence ("hollow skull phenomenon"), which is incompatible with neuronal viability, hence becoming a diagnostic for brain death.

This study aimed to portray the significance of cerebral perfusion scintigraphy in the diagnosis of brain death.

The authors present a retrospective study of the 86 functional studies that resorted to cerebral perfusion scintigraphy performed in their institution between 2005 and 2011, concerning 79 patients. Dynamic and planar brain images were performed after intravenous administration of 740 MBq (20 mCi) of 99mTc-hexamethylpropylene amine oxime (99mTc-HMPAO).

Several variables (age, genre, clinical data and occurrence year) were characterized in order to establish the patients' profiles and the circumstances of the occurrences that lead to the deaths.

There has been a variation in the number of examinations performed throughout the years, with a significant decrease from 25 (2005) to 3 (2011).

Sixty four patients (75.58 %) were male individuals, aged between 14 and 87 years (mean age 46.94).

Regarding the clinical information that led to this type of examination, craniocerebral injuries were the most frequent (41.86 %), followed by cerebral vascular accidents (13.95 %).

In 74 patients (93.67 %) the study confirmed the diagnosis of brain death, which allowed a subsequent harvesting of these individuals' organs for transplantation.

In our experience confirmation of brain death by cerebral perfusion scintigraphy is a reliable, safe, easily readable and low-cost method that enables an urgent diagnosis of brain death as anticipated in transplantation programs.

PP-204

Sexual Dimorphism Of Lunate And Capitate Bones With Magnetic Resonance Imaging (MRI) Method In Ankara

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Intruduction: Sex determination is a vital part of the medico-legal system but can be difficult in cases where the body is damaged. The present work was performed to investigate the possibility of estimation of sex from some radiological measurements among a known cross-section of Ankara who live in.

Materyal and method: In this study, by the use of Magnetic Resonance Imaging (MRI) scan, three both lunate and capitate measurements were assessed in 62 living non-pathologic Ankara who live in, comprising 30 males and 32 females aged 17–70 years referred to the Radiology Department. These were subjected to statistical analysis.

Results: All dimensions were significantly greater in males than females ($p<0.005$). In the step wise discriminating analysis, while lunate bone measurements classified the original group accurately by 83.9 %, capitate bone measurements classified the original group accurately by 77.4 %.

Discussion: The literature on the sex differences of metacarpals reported accuracy levels of 71.7-94 %. The present study has shown the potential for assessing sex from antero-posterior measurement of lunate bone (83.9 %).

Conclusion: The results suggest that can be used for assessing sex in both forensic and bio-archaeological identification procedures.

PP-205

An Association between Bite Mark Characteristics and the Tendency of Perpetrator to Repeat the Crime

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Bite marks which have the specialty of forensic case give not only information about the dental characteristics of the criminal but also enlightening opinions pertaining to his/her psychological background and tendency to repeat the crime. It has been thought that the aggressors can not express their immediate needs due to the rituals determined by the society in which they live. The aim of this study is to determine psychological background of the perpetrator of bite marks, which have led to this crime, and to show the tendency of repeating the crime in three forensic cases. Bite marks determined on three different victims and in three different times, caused by the same aggressor were evaluated by superimposition technique in Adobe Photoshop environment. When the bite marks photographs obtained from the first victim were evaluated by a psychiatrist and a specialist of forensic odontology, the structure of bite marks -the fact that they were caused by breaking off the tissue place by place, that they were many, deep and on the face- led to the idea the fact that there was a risk for crime to repeat, with increasing the violence. Later, two cases by the same perpetrator in different times supported that our determination was true.

These clues point that an association may be established between the characteristics of bite marks and the perpetrator's tendency to repeat the crime.

PP-206

Prior Determination Photografic Inhalation of Cocaine an Sofocation to a Manual Strangulation

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In any criminal investigation the photographic documentation is used for preservation and subsequent analysis of trauma, scenes and impressions that can recreate the sequence of events and make quantitative differences between the causal elements and the injury pattern found in the victim. With the advent of digital photography and for this case study is demonstrated through a software as a victim of manual strangulation prior to his demise breathed cocaine and was partially stifled. In the quarter of autopsies is routine photographically documenting the external injuries and internal observed the bodies are examined to determine his cause of death. A large number of skin lesions were found by the forensic experts aren't ballistics by nature, offering multiple insights in the cause of death, time of injury, used gun and the force of the impact. The ability to rebuild an injury still depends on the use of so many lines of possible evidence. Manual strangulation leaves a few classic stigmas that in the majority of opportunities are significant at first glance as marks of nails in the neck, in the conjunctival petechiae and lesions in the laryngeal skeleton. The suffocation leaves in the body other injuries as the break-up of the frenulum, the marks of teeth in the labial mucosa, etc. The use of cocaine and alcohol is determined by the nasal smear and toxicological outcomes. To open images with fotoshop.com and changes in the contrasts could be determined inevitably the impression of a hand and fingers on the face, also traces of cocaine on the halls nasal inhalation, which is called the "clown face" given that it is similar to the makeup used mimes or clowns in the face in the slang of addicts.

PP-207

A case of suicide; three consecutive gunshots to the head

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Introduction: Forensic animation is a judicial branch of science which aims to help forensic investigators revitalizing to events and accidents in a variety of perspectives. Basic purpose of using computer technology is to clarify and explain a situation that is difficult to visualize and make it clearer. Road traffic accidents, penetration into the head of an object, a murder and explosion events may be shown by means of forensic animation method. Witness in case, crime science findings and evidence remind points which overlooked at incident and also forensic animation method helps judicial authorities to understand how it happens. Therefore, forensic animation point of view, judicial authorities and experts may attain detailed information about the object such as time of event, process.It is possible to see to the smallest detail. Witness, the defendant and the victim's statements, event location accuracy is tested according to the law and the scientific findings and concerns. For this reason, a new branch of science is becoming more popular day by day in court, and even some defense lawyers used by the 3D animations of the case.

Case: 74-years-old patient who diagnosed with lung cancer was found dead with 3 pieces of firearms bullet entrance wounds in his head and a gun beside. This 3-shot asked by the prosecutor whether it is possible is that one's own self. Crime scene examination findings (gun shot residue, fingerprints, traces of gunpowder in the hands of the person… etc.) were evaluated as a suicide according to eye witness, event of injury.
As in this case; the position of the body, scars, wounds, marks on the scene of the incident along with the revitalization of the event are important to understand whether incident will occur or not.

PP-208

Correlation between lesions and radiologic findings in cases of ejection from jet aircraft

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The purpose of this study is to analyze the case of an operator of the onboard electronic systems of a jet aircraft, that has sustained injuries following an ejection. The authors, after describing the case history, will pass to analyze the pathogenic mechanism in relation to radiological findings. In conclusion, They will compare the data of the individual case with the general ones, derived from the scientific literature about spinal injuries following ejection from jet aircraft

PP-209

Contribution of post-mortem computed tomography in skeletal trauma: about 29 forensic cases

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Background: In France, post-mortem full body computed tomography (CT) is increasingly used for forensic purposes before autopsy is performed. The aim of this study was to determine the contribution of this imaging technique in skeletal trauma, comparing CT findings with autopsy results.
Method: Reports of the autopsies made in the unit in 2011 were reviewed (n=339). A post-mortem CT was made previous to 39 autopsies involving polytraumas. Among them, 29 skeletal traumas were objectivated. In each case, a parallel was made between radiological and autopsy data, paying particular attention to the description of osteoarticular lesions, that were classified according to the topography of skeletal damage (skull, larynx, thorax, rachis, pelvis, upper and lower limbs).
Results: Selected cases included 22 males and 7 females. The mean age at death was 36 and the time elapsed between death and CT could range from a few hours to 5 days. Deaths resulted from road traffic accidents (n=17), precipitations (n=8), assault and battery (n=2) and other causes (n=2). CT allowed a better description of skull fractures (especially the ones concerning basilar region and calvarial bones) and it was more performant than autopsy in identifying mandibular (10 versus 5) and sinal fractures (17 versus 1). Nevertheless, CT objectivated only one laryngeal fracture whereas 7 were seen at the autopsy (3 interesting the lingual bone and 4 the thyroid cartilage). CT was also more efficient than autopsy in highlightening cervical dislocations (5 versus 1), but both were equivalent in finding cervical fractures, whereas half of fractures of dorsal vertebrae were missed at the autopsy (11/22). CT objectivated more

fractures of vertebral processes (102 versus 8) and non-comminuted scapular fractures, and it better described sacroiliac fractures. Moreover, fractures of the extremities of long bones and of hands and feet were better visualised using this imaging technique. Even if there were many differences between both techniques in the description of fractures of the rib cage, the ones interesting the costal posterior arch were better seen at the autopsy.

Conclusion: This study demonstrates the usefulness of the post-mortem CT to assess skeletal damage, notably because of its ability to describe more precisely than autopsy craniofacial, rachis, pelvis and long-bone extremities fractures. However, laryngeal and costal posterior arch fractures are better described at the autopsy. Thus the use of the post-mortem CT in skeletal trauma is a precious complementary exam to the autopsy in forensic practice.

PP-210

Airplane C-130 J crash in Pisa (Italy), November 23, 2009. Comparison between radiological and autoptic results on the victims

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Background: application of radiological techniques in mass disaster forensic activity (virtopsy) can be a useful tool for rapid identification and examination but also for diagnostic purpose related to cause and manner of death. The documentation and analysis of postmortem findings with multislice computed tomography (MSCT), magnetic resonance imaging (MRI) and postprocessing techniques is investigator independent, objective and non invasive and will lead to qualitative improvements in forensic pathologic investigation.

Method: the five deceased in Airplane C-130 J crash in Pisa (Italy), November 23, 2009, were investigated by MSCT (Toshiba – Aquilion 16 s) to visualize the internal body before autopsy. The images were post-processed by 3D and multiplanar reconstruction with Voxar software. Second look after autopsy was performed. MRI could be usefull in identification of oedema associated with bone lesions. In this traumatic scenario, it was not performed because of the absence of survival after crash.

Results: the MSCT has been usefull to detect the presence of comminuted fractures – that are not viewable at a simple macroscopic examination- and other fractures at sites that are not commonly inspected during autopsy. In one case the MSCT did not detect the presence of a fracture of the orbital rime of the frontal bone in the anterior cranial fossa. In another case, MSCT did not recognize some rib fractures. Second look of the images after autopsy confirmed inability of radiological technique to detect these specific bone fractures.

Conclusion: In light of these results, virtopsy cannot be considered an alternative method to autopsy, that still remain the gold standard in post-mortem examination. As a matter of fact this investigation shows that MSCT has diagnostic limits because it didn't detect several bone fractures. This restriction can be explained by the fact that TC spatial resolution could not be sufficient to visualize excessively thin fracture lines.

As far as we are concerned, MSCT is a complementary tool able to offer modern imaging technology to optimize classical autopsy documentation. Classic forensic autopsy cannot be substituted by digital radiological approach.

PP-211

Forensic medical examination including multislice computed tomography of a corpse of the victim of firearm injuries subsequently partially burned

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Introduction: A partially burned corpse was found next to a burned car with traces of possibility of being a victim of firearm injury / injuries. As such the case was qualified to perform post-mortem MSCT (PM-MSCT). The procedure is carried out in every case of firearm and post-explosion injuries from the year 2009 by the Chair of Forensic Medicine in collaboration with the Chair of Radiology of Jagiellonian University Medical College

Material-methods: Before the conventional autopsy PM-MSCT was performed using 16-layers CT scanner. DICOM files from the CT acquisition were analyzed using a computer program Osirix. Preliminary evaluation results were used to plan conventional autopsy examination.

Results: The results of post-mortem examination are presented in the form of images taken during conventional autopsy examination compared with selected cross-sections and 3D reconstructions obtained from evaluation of post-mortem CT.

Conclusion: Reconstructions based on post-mortem CT has shown that such examination is able to broaden the diagnostic capabilities of post-mortem forensic examination. It can be useful especially in cases of charred bodies in visualization of location of foreign bodies and injuries.

FORENSIC NURSING

PP-212

The role of forensic nursing in evaluating and diagnosing child abuse and neglect in Italy

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Background: The World Health Organization (WHO) defines child abuse and maltreatment as "all forms of physical and emotional ill-treatment, sexual abuse, neglect, and commercial exploitation that results in actual or potential harm to a child's health, survival, development or dignity…" (OMS 2002). Statistics show that child abuse and neglect is rising at an alarming rate. Due to an increase in the number of such cases, the Italian Minister of Health has defined the phenomenon of abuse and violence against minors as a health problem, and not only a social or, safety issue. Such events are complex in nature and require the expertise of various disciplines.

In order to ascertain if abuse was indeed perpetrated on a minor, careful verification of the facts is required, as well as an objective "legal-medical" examination. The only suitable means for tackling this task is teamwork. One very important resource to consider is the registered nurse, who is often the first health care worker to come into contact with the presumed victim. By spending time with these young patients, it is easier for a forensic nurse to take on the role of "confidant" while at the same time looking out for unusual behaviors, or any signs of physical abuse such as lesions or burns.

Method: The aim of this poster is to examine the contributions of forensic nursing in the evaluation of child abuse and neglect.
Results: Notwithstanding recent institutional laws and regulations put into place that redefine the job descriptions of healthcare providers, nurses in Italy do not have complete decisional autonomy. A nurse's image is still closely connected to that of the physician. This goes against current Italian ethical and penal code, which lays out the specific roles of healthcare workers with regarding juveniles who are presumed victims of abuse.
Conclusions: Forensic nursing specialized in the verification of child abuse and neglect is well established and considered to be very important in countries such as the United States. It is a hopeful sign that registered nurses' roles and autonomy in legal-medical matters, such as child abuse and neglect, have been recognized in Italy.

PP-213

The Importance of Forensic Knowledge in Pre Hospital Care

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Background: The work presented in this poster is to explore the importance of forensic science within the prehospital care. The crimes do not happen in hospitals, they happen in the streets, homes and even at work.

If all the forensics community agree in the importance of emergency and hospital forensic nursing, they must realize the importance of that same knowlegde in the prehospitals systems.

It is certain that many countries realizing this importance emited a series of protocols or rules of engagment when prehospital teams arrive at a suspicion site. The intruccions are clear, to preserve traces that may lead to evidence, without putting at risk the patients that need medical assistence, with no security risk also.But if the forensics specialist, coroners or technicians do not arrive on time, or the police, that already have a forensic way of thinking?

The prehospital professionals arrive many times first then other teams at crime scenes or at situations that are not identifed by phone as having legal implications. Elder or child negligence, some traffic accidents, supposed accident falls, suicides, intoxications and other may involve evidence that is essential to recover but in many situations police or other forencis worker are not require on site by law or because the triage that is made in 112 is not entirely correct because of lack of information or triage mistakes.
Method: The method used, is an inquiry/survey made to the professional involved in the prehospital in Portugal so that we can realize their forensic knowledge and legal implications in several prehospital emergency situations. Only 5 questions were made (YES or NO), to 100 prehospital professionals.
Results: The results were clear, most of emergency professional revealed weak knowledge of such forensic matters.
Conclusion: The professionals revealed almost no knowlodge of forensics or legal medicine on colecting traces that lead to evidence so that they can preserve traces and information, that are in immediate risk of being lost, not just because of time degradations or enviorment problems such as runing water, fire and others but also with lack of forensic teams.

The prehospital is one of the most importante aspects in the health systems of every country and with this work is aspected to help and improve a better and efficient work to contribute judicial system.

The fundamental reason is to defend justice to all in society with no exception.

FORENSIC ODONTOLOGY

PP-214

Forensic Odontology - Cosmetic facial kept in the body post-autopsy. Techniques and Luntz / Keiser-Nielsen (modified) with access to dental arches and bones of the face by folding in block of the structures

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Introduction: The Forensic Odontology may be important in the exploration and removal of dental pieces to perform DNA tests and other information characteristics of race, sex, age and other parameters of the body.
Methodology: We did try to improve the final facial appearance, with modifications of existing techniques for incisions (Luntz and Keiser-Nielsen).
Objectives: The authors modified the techniques, focusing folding in block the structures of the face.
Discussion: Luntz technique (cited Vanrell and Fields): two bilateral incisions in the cheeks, forming an opening angle back from the labial commissure on each side, the incision superior to the zygomatic arch, the lower wound up mandibular or gonial angle, remove the soft tissue of the jaw following the lower edge of the jaw; deepen this incision to reach the floor of the mouth, all the muscular sectioning. Keiser-Nielsen technique: the first horseshoe-shaped incision 2–3 cm under the base of the mandibular angle, extending to the opposite side. A second incision is made beneath the surface of the fabric, along the surface of the jaw bone outside the body to the base of the bottom of the earlobes, sectioned distally to the masseter. The tissues of the chin and the base of the cheeks are folded down. New technique modified by the authors: the oral mucosa sectioned prey to his lips, facilitating the release of the skin. The skin incision starts at the front of the ears (bilaterally). The section is made with pressure on the scalpel, severing at once the structures to reach the periosteum of the jaws, which facilitate their detachment with the help of the "highlights the periosteum. Sectioned across the line that separates the nasal mucous membranes of the skin of the nose and push back all proximal block. We carried out photos of all stage and sutured the incisions with nylon 3–0 (intradermal).
RESULTS: The end result was highly satisfactory, causing minimal deformation in the face of the corpse.

PP-215

Medico-legal age estimation in living individual: Third molar mineralization

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According to the Study Group on Forensic Age Diagnostics (AGFAD), the radiological evaluation of third molar mineralization is a major criterion for chronological age estimation of living individuals.

This investigation studied third molar development in 329 orthopantomograms (40,4 % males) of Portuguese individuals, patients of Dental Medicine Faculty of Lisbon University, with an age range between 14,0 to 22,8 years, through five different methods (Demirjian, Haavikko, Harris and Nortjè, Kullman and Solari).

The results show a better correlation, between real and estimated age, in Demirjian and Solari methods. Demirjian method was used to analyse the other results statistical variables. Third molar development occurs earlier, in average 9 months, in males, in stages D-G. In stage H there's no significant difference. There's no significant difference between mineralization of molars in the same arch, however, in the inter-arch comparison, the maxillary molars have a premature development, statistically different in stages F (males), G and H.

The age 18 is reach in stage G and H, respectively, by females and males. Under the Portuguese Penal Code, section 19, the age is one of the factors of exceptional of criminal responsibility. For criminal pursuit, they state being minor than 16 years of age. This limit is reached for both sexes in the stadium F. However in any stage we can deduce the majority or minority in relation to the age of criminal responsibility.

New studies about the influence of socioeconomic and genetic factors, in third molar development, are necessary.

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Age estimation by dental parameters – Validation in a Portuguese Population of the two methods: direct and indirect observation of teeth

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Objective: To test the applicability of morphological and radiographic parameters used in forensic identification, particularly in estimating the age. Thus, a sample of the Portuguese adult population was used to test our hypothesis. Likewise, this experimental study intends to compare the chronological age with the estimated dental age using the methods of Kvaal and Solheim as well as the Bang and Ramm.
Materials-methods: Thirty-five single-rooted teeth were analyzed throughout this study. For the radiographic analysis which used the method of Kvaal and Solheim (1994), all measurements were made by the digital radiography software Kodak RVG 2200 intra-oral with exposure factors of 60–70 KVp and 7 mA. The morphological parameter, the translucent dentin were assessed in both the intact and sectioned tooth. The objects used in this study were sectioned by a tungsten carbide drill in a vertical surface with a buccolingual direction. The relationship between the coefficients was calculated among the age, the ratios and the level of inclusion was $p < 0.05$.
Results and discussion: The statistical analysis showed that the Pearson's correlation was the strongest (0,86) for the Bang and Ramm (sectioned tooth)method indicating that age can be estimated better with this particular method.
Conclusions: The dental age calculated either through the method of Kvaal and Solheim or Bang and Ramm is not considerably different from the individual's chronological age.
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DNA quantification in human teeth after different storage time

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Background: Dentin and enamel provide a protective enclosure for genomic DNA against external influence making dental DNA the best samples for forensic studies purposes. This tissue can be affected by degradation when submitted to thermal, electrical and mechanical insult. However, up to date it is unclear the rate of DNA degradation in teeth along time. The aim of this work was to determine the amount of DNA that could be obtained from teeth stored at different intervals of time under the same environmental conditions.
Methods: We analyzed 60 human teeth stored at room temperature for 0, 1, 3, 6, 12 y 18 months. First we carried out a decontamination process of the teeth and DNA extraction; after which gel electrophoresis was performed. Finally quantification of the teeth was obtained by real–time quantitative PCR using a Quantifiler™ kit assay.
Results: Data showed that DNA concentration declined significantly during the first month postextraction, and then DNA concentration stabilized, but dropped again at 18 months postextraction. One-way ANOVA revealed significant differences in DNA concentrations as a function of post-extraction time (sum of squared deviations=617371; 5 degrees of freedom [d.f.]; $p <= 0.0001$). Post-hoc Newman-Keuls test revealed significant differences ($p<0.05$) in DNA concentration between the fresh teeth and remaining groups (1, 3, 6, 12 and 18 months post-extraction), finding the highest significance ($p<0.001$) for the difference with the 18-month group. We found no statistical differences in the amount of dental DNA compared between anterior and posterior teeth or gender.
Conclusion: The present study contributes to a better knowledge of the decomposition process driving DNA degradation, but further studies are needed to understand the effect of external variables on DNA degradation.

PP-218

Dental age assessment in a recent French children population: validity of three methods

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Background: Age estimation is a common requirement in forensic practise and in bioarchaeology. For the children age assessment, methods based on dental mineralization are widely used and appeared to be more reliable than methods based on other skeletal indicators.

The aim of this study was to test the validity of three dental age estimation methods.
Materials-methods: The sample comprised 743 children (386 girls and 357 boys) aged between 4 and 15 years (mean age 11.01± 2.81 years), and examined between 2004 and 2010 in the South West of France. Dental age was assessed by three different methods (Demirjian and Goldstein 1976; Willems et al. 2010 and Moorrees et al. 1963) based on the evaluation of crown and root mineralization using the seven left mandibular teeth (31 to 37) for the first two methods. The last method uses only isolated teeth (for our study we used the first and second mandibular molars 36 and 37). Dental age was compared to chronological age of the individuals.
Results: Using all methods, the dental age are underestimated in the last age category. Demirjian and Goldstein (1976) method provided an

overestimation of dental age (mean difference +0.51±0.91 years), whereas Willems et al. (2010) gave a more accurate estimation (mean difference 0.00±0.96 years). For the Moorrees et al. (1963) method, the utilisation of the second mandibular molar (37) was more accurate and reliable than the utilisation of the first mandibular molar (36); however, age assessment were worse than with Demirjian and Goldstein (1976) and Willems et al. (2010) methods. It seems that differences observed in dental age estimation may be explained by the secular changes in recent populations.

Conclusions: Willems et al. (2010) method is reliable and accurate and appears to be suitable for dental age estimation in contemporary French children population. Its main advantage is to be non-gender specific, and its main drawback, as for the Demirjian and Goldstein (1976) method, is the necessity of scoring the seven left mandibular teeth. Moorrees et al. (1963) method is usefull in forensic anthropology and in bioarchaeology, when some teeth are missing. In this case we recommend the use of the second mandibular molar.

PP-219

Sexual dimorphism in forensic anthropology: using IMECRAN to improve skull measurements´ precision

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Sexual dimorphism is observed in human skeletons and its importance for medical and legal purposes is already well established. The skull is one of these parts that can present much information at this regard. In this context, IMECRAN is an invent recently published that was created to improve the precision of anthropometric measures of skulls, allowing that the Frankfurt plane be parallel to the floor, even when the skull is rotated in order to perform other analysis. The objective of the study was to use IMECRAN to carry out 41 anthropometric measures in 63 Brazilian skulls and to verify the sex dimorphism. All the skulls had registrations of sex and they are part of the Guarulhos´ Forensic Investigations collection; human remains that are not asked by their families after 3 years of death become part of the collection. The examiner didn´t have access to the registers. The skulls were put into IMECRAN and, after adequate concordance (kappa), the measurements were performed. T test was used, at 5 % of level of significance. STATA 10.0 was the statistical program used. We studied 33 male and 30 female skulls. Some variables were associated to sex dimorphism: frontal´s length and angle (both $p=0.00$), frontal eminences ($p=0.02$), supraorbital ridges ($p=0.01$), orbit´s areas ($p=0.04$, right, and $p=0.05$, left), piriform aperture ($p=0.00$), all mastoid´s measurements ($p=0.00$), occipital´s length and height ($p=0.01$, $p=0.04$), occipital condyles´ length ($p=0.01$, right, $p=0.03$, left), foramen magnun´s height and width (both $p=0.00$). IMECRAN could offer stability to the skull during the study, and it allowing the performance of reproducible studies about sex dimorphism. Financial support: State of Sao Paulo´s research fund (FAPESP, proc. 2011/18577-7).

PP-220

Aesthetic damages analysis in south state of brazil dental court cases

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Objective: analyzing the amount paid by aesthetic, moral and material damages in civil liability processes against the Dentist judged at the Court of the State of Rio Grande do Sul from 2007 to 2010, identifying in the content of the trials if the expert or judge used the descriptive method in the evaluation of aesthetic changes as well as highlighting the importance of matching it to one of the categories referred to in qualifying graduated scale of increasing severity.

Methodology: We have analyzed trials of civil cases involving Dentists, both downloaded and printed, through electronic search on the site of the Court of the State of Rio Grande do Sul in 2007 by the year 2010. Only the texts produced by the magistrates were used in the sample, making the analysis of the full content only in cases that have been granted cosmetic damage. In these, we have checked whether any qualifier or numeric parameter had been used or not.

Conclusion: The processes related to the professional responsibility of the Dentists have showed a tendency of judges to defer more compensation for moral damages to material damages, as well as give value in a high-level requests referring to disfigurement -on average larger than the material and moral damages. According to the trialsanalyzed no objective and comparative analysis were identified in the assessment of cosmetic damage. The parameters indicated in the descriptive method should always be used to show the characteristics and importance of the evaluations of cosmetic changes, for which they need to assign percentage points or numerical scales.

PP-221

The Current Status Of The Education In Forensic Odontology For Undergraduate Dentistry Students

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Background: Forensic odontology requires an interdisciplinary knowledge of dental science. It relies on the detailed knowledge of teeth and jaws. Thus, forensic odontology is an interdisciplinary subject that covers dental anatomy, interpretation of radiograms, dental materials, developmental anomalies and others. Although the forensic odontologist as a professional is well known, there is nothing like a specialty in Forensic Odontology in Poland and the most of European countries. Typically, the professionals are DMD or DDS graduates and postgraduates educated and certified in the area of forensic odontology. Apart from the basic practice of dentistry, additional extensive training is necessary to acquire different methods and technical skills.

In non- European countries there are special institutions supervising education, certification and also revision of the professional qualifications of forensic odontologists.

Whilst not every dentist recognizes the need for further postgraduate education, the educational offer in European universities and dental schools is limited to only a few, it seems that the only way to expand the qualifications of dental practitioners in the forensic odontology is to develop and extend the education at the undergraduate level.

Although the important role of forensic odontology is commonly appreciated, neither number of hours nor the scope within undergraduate education guarantees the development of basic theoretical knowledge and practical skills that are essential for the specialists involved in the forensic odontology.

The aim was to evaluate the forensic odontology teaching program at PUMS and compare it to other educational offers in European countries. The estimation of students' needs prefaced the study.

Method: The questionnaire in paper form was prepared and completed by students of Dentistry Program studying 2nd semester.

The proportion of respondents answering for each category of each question was finally calculated.

Results: The study showed that the majority of students have never heard about Forensic Dentistry. On the other hand, 96 % are interested in the subject and would like to participate in facultative classes and laboratories. A positive attitude to the mandatory classes in forensic odontology is represented by more than 80 % of students. Two thirds (66 %) of the students agreed that every dental practitioner should take part in a course dedicated to forensic odontology.

Conclusions: The survey showed that the current status of forensic odontology education for undergraduate students is unsatisfactory. Only general aspects of forensic odontology are covered in preceding university curricula and they are not constantly updated for the increasing educational needs.

PP-222

The analysis of dental rehabilitation under the evaluation of body damage - date of consolidation or healing and aesthetic damage

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The increasing of the dental examination in the evaluation of body damage, is related to the complexity of the situations of accidents and violence, as well as the technologic advance in this medical field.

We emphasize in this paper the parameters of the assignment of the consolidation date or healing and valorization the analysis of the aesthetic damage.

Comparatively with other rehabilitations, in particular orthopedics, the intervals of temporary incapacity to aim a value of permanent damage through the dental rehabilitation, are high.

The interval for the allocation of consolidation data, depends, in most situations, of the laboratory work and of the relative position for individual growth peak.

By other way, the assignment of aesthetic sequel, is related to sex, age, ludic or professional activity,meanwhile it also depends of the estability of the rehabilitation carried out and the characteristics of the materials used.

This paper will be support through photographic records, the freezing of the image, in different periods of time of the forensic process, and we emphasize the importance of this document in the examination of forensic evidence.

PP-223

Bitemarks analysis in foods caused by partial dentures

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The study of human bitemarks in foods is an important topic of forensic dentistry with application to the exclusion or identification of suspected criminal acts. The aim of this paper is to assess the possibility to identify bitemarks in food, caused by dentures. The sample consists of 10 sets of partial dentures, 13 to 23 in the upper arch and 33 to 43 in the lower, performed in laboratory by the same prosthetist and assembled on occluder in Angle Class I. After numbering dentures and food, a raffle is held. Then, we proceed randomly to carry out the bites on food (four chocolates, four cheeses and two bananas). Stone models of both, dentures and food bitten, are prepared using alginate. Measurements are taken of each tooth models, food and prostheses, in accordance with the ABFO Standards. Subsequently, direct comparison is made with the bit of food models of prostheses, was classified the upper and lower arches as compatible (C) or excluded (E). The compatibility between the arches and prints are divided between bitter and not-bitter, as per ABFO-2012 guidelines. The bitter classification is found in 7 cases. However, in two cheeses and one chocolate, the suspects are found to be not excluded. According to this paper, is possible analyze, classify and identify bitemarks produced by dentures, an individualizing data, contributing to the skills held in the forensic dentistry.

PP-224

Use of Digital Panoramic Radiographs in Adult Dental Age Estimation from Pulp Cavity

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Dental age estimation is necessary not only to aid identification of the dead, but also for living individiuals to clarify criminal and civil liability and social issues. Kvaal and associates have presented a technique based on radiological mesurements on peri-apical radiographs and does not require extraction. However the applicability of the technique showed different results when tested on different images (conventional, digitized, digital panoramic radiographs) by other investigators. The purpose of this study is to apply the Kvaal technique to digital panoramic radiographs (DPRs) and to help assess the potential disagreement mentioned above among earlier researchers. DPRs are collected from patients who visited the Health Ministry, Istanbul Hospital, Osmaniye Dental Unit for therapy on January-June 2009. Digital measurements are taken from a total of 50 males and 50 females at an age range of 15 to 60 years. Indices (P, R and T) reported by Kvaal coworkers which give the length reduction of the pulp of these only P showed statistically significant negative correlation with age (only lateral incisor). All variables (A, B and C) which give the breadth reduction of the pulp also showed statistically significant negative correlation with age for all teeth. These results show that the breadth reduction in the pulp cavity seems more efficient for age estimation in adults. In conclusion, three variables, which give the breadth reduction of the pulp in the Kvaal technique, maybe used for age estimation in adult Turks, only if DPRs have sufficient image quality and taken at the right angle.

PP-225

Radiological Age Estimation: Based on Third Molar Mineralization and Eruption in Turkish Children and Young Adults

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Radiographic evaluation of mineralization and eruption stages of third molars using dental panoramic radiographies can be an efficient tool for chronological age estimation in both forensic sciences and legal medicine. The third molar tooth is utilized

for dental age estimation about the age span of 15–23 years because it represents the only tooth still in development. The aim of this study is to obtain and analyze data regarding third molar development and eruption in Turkish population for dental age estimation. A total of 744 dental panoramic radiographies of 394 female and 350 male subjects aged between 8 and 22 years were examined. Third molar development was determined according to Nolla classification system and eruption was assessed relative to the alveolar bone level. Mandibular and maxillary third molars were generally found at similar stages of development on both sides. Nolla stage 6 (completed crown calcification) was reached at around the age of 15 in both maxillary and mandibular third molars in both sexes. Alveolar emergence was at around the age of 16 in males and around age of 17 in females. Although third molars show greater variability than the other teeth, assessment of third molars using both development and eruption stages will increase the accuracy of age estimation in children and young adults.

PP-226

Ritual dental mutilation among Masai

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Background: The practice of dental mutilation was frequent in the past worldwide except in Europe where it was in use in England.

The motivations behind these practices are the most diverse, schematically may be summarized: initiation ceremonies, functional, aesthetic reasons (for example in the Masai tribe of lower incisors extraction was believed to facilitate feeding in case of Lockjaw), religious.

However, some of these customs are still in use among certain populations, although they often lost their original motivation.

In Africa the fourth dental extractions and rituals are still common in most tribal people while in Asia are now located mainly between the populations of the islands of Java and Bali where survives the ancient custom of closing the upper incisors.

In the Austral continent are still widespread in Tasmania, New Guinea and the islands of the Pacific Ocean. In Europe and in Italy the fourth dental ritual purposes and not, are prohibited by law for each ethnic group and therefore their possible practice would raise ethics and medico-legal concerns for the dentist

Aim: The purpose of this paper is to describe specific dental mutilation found in Masai tribes, as a useful element for identification purposes both in living subjects of identity both in the skeletal remains of indeterminate origin.

Results: This work is inspired by feedback from the Maasai population resident in Zanzibar and Kenya where it was noticed the absence of the lower incisors in all young males.

This relief, not some random given the constant presence of such mutilation at Masai tribe residing in two different territories, was explained as a widespread custom in this population for the purpose of branding their sons as being subject to continuing kidnappings by neighbouring tribes. It appears as though losing motivation, this practice continues to be practiced within the same tribe. Extraction of lower central incisors, two permanent is not practiced by a doctor or Medic with a knife without anesthesia in infant

Conclusion: Dental mutilation can help forensic odontologist in detecting area of origin of a person and belonging to specific ethnic groups

PP-227

Sexual Dimorphism in Teeth: A Comparison of Mesiodistal and Buccolingual Diameters and Root Length of Single-Rooted Teeth

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Background: Sex determination is a necessary step in the investigation of unidentified human remains from a forensic context. The most commonly used techniques for sex determination are based on the assessment of the morphological characteristics of the pelvis and skull. When these elements are recovered in a fragmentary state, teeth can be used as an additional tool for sex determination as they are very durable in comparison with skeletal tissues. Most studies of sexual dimorphism in tooth size are based on the measurement of the mesiodistal and buccolingual crown diameters. However, these dimensions may be affected by caries, attrition or dental restorations and this does not allow certain measurements to be taken. As a result, alternative dental measurements were developed, that are not affected by these problems, such as root length which is the focus of this study.
Method: A total of 586 permanent single-rooted teeth in 102 individuals (58 males and 44 females) from the Athens collection were examined. Mesiodistal (MD) and buccolingual (BL) crown diameters as well as maximum root length for all sides of the teeth were measured. Statistical analysis was carried out using IBM SPSS Statistics (IBM Inc., version 20 for Windows) software package.
Results: Paired Student's t-test has shown that there is no intra-observer variation for root length and MD crown diameter, in contrast with BL crown diameter. In the case of root length and BL diameter almost all teeth presented significant difference between males and females, in contrast with MD diameter. For crown diameters canines were the most dimorphic teeth followed by first premolars and maxillary second premolar. For root length both maxillary and mandibular second incisors, canines and second premolars as well as the first mandibular premolar present a great degree of sexual dimorphism with the maxillary second incisor to be the most dimorphic tooth followed by the maxillary second premolar and mandibular canine. Among the dimensions studied, root length was the most dimorphic with the measurements of the mesial side to present the higher percentage of sexual dimorphism (%SD: 4.10 %-15.75 %). The least dimorphic dimension was MD diameter (% SD: 1.43 %-6.52 %).
Conclusion: The results of the present study suggest that root length is a more reliable and useful tooth dimension than crown diameters and appears to be a promising new method for sex determination. It remains to be seen whether this method present high classification accuracy in other populations.

PP-228

Proposed Amendment to Traffic Spanish scale rating for bodily injury in the oral cavity

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In Spain the assessment of the corporal damage within the oral system is subject to limitations and difficulties which are caused from the deficient enumeration and assessment of the after-effects in the current and valid scales. The present study deals with the analysis and the elaboration of a proposal to modificate the current traffic scale in the bucco-dental field. It pays special attention to the after-effects of the TMD (Temporomandibular Disorder). The carried out study bears witness to the insuffiency of the scale of the current traffic in order to evaluate the dental-stomatological damage and, specially, in order to evaluate the temporomandibular joint. The traffic scale, which is currently valid, does not consider the protrusion, lateral and retrusion movements of the osteoarticular system of the face. Our proposal is to include the protrusion, lateral and retrusionmovements, that we consider as necessary from a functional viewpoint. We give a wye between the points between 1 and 10. We do not find reasonable to assign the same valoration to different dental pieces bearing its different physiological function in mind. Therefore, we consider that the punctuation assigned to canines should be 1.5 punts for incisors; 1 point for molars and 0,5 for premolars.

FORENSIC PATHOLOGY

PP-229

Dismemberment and mutilation: report of three cases

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Definicion: Dismemberment is the act of cutting, tearing, pulling, wrenching or otherwise removing, the limbs of a living thing

The literature shows the biggest number of cases in Hamburgo medical examiner office with 31 cases of mutilation and criminal dismemberment. Sweden published a 29 years study with 22 dead. In our country the criminal dismemberment is used to hide the body, to move it to another scene and to produce fear in the people.

Metodologia: we perform the autopsies at the medical examiner office in Medellin, Colombia, South America with qualify people as dentistry, photographer and anthropologist. We made complete autopsies, with study of the scene, X ray, toxicology and biological samples

Casos forense: In Medellin Colombia are found five bags containing plastic in which body segments are related to three bodies

At the autopsy room the bags were classified into A, B, C, D and E.

Case 1: skeletonized corpse with stab wounds chainsaw type

Case 2: is male cadaver in adipocere with a bullet wound in the head fire

Case 3: adipocere lower member an in which are seen chainsaw cut

PP-230

sudden death: intramural Coronary artery

Ruben Dario Giraldo, Catalina Vasquez Guarin, Viagnney Bravo Viloria

Definition: Intramural artery, intramyocardial bridges are defined as arterial segments that take place in the thickness of the heart muscle wall, usually have a way coronary epicardial but for lack of externalization of the primitive network cross intratrabecular muscle mass.

Methodology: Medicolegal autopsy is performed complete to the guidelines of the National Institute of Legal Medicine, pathological specimens are fixed in formaldehyde buffer, embedded in paraffin and staining techniques are performed routine hematoxylin and eosin and special. Samples are taken for toxicology

The case involves a 25-year-old man is found unconscious in his home and is driven by their families to enter hospital entity where no signs viatles. Enter the National Institute of Legal Medicine and Forensic Sciences in Medellin, Northwest Regional, with a diagnosis of sudden death.

At necropsy documenting the corpse of a man of neat, thin build, with no external traumatic injuries. Internal review marked visceral congestion, heart weight 310 gr, right ventricle thickness 0.4 cm, 1.4 cm left ventricle, valves without alterations or traumatic injuries, coronary artery anatomic variant where it is observed intramyocardial left anterior descending coronary artery of 2 cm approximately in the histopathological study shows intramural coronary artery.

Conclusion: In dealing with sudden deaths opens a range of possibilities for the expert in the search for a reason, although epidemiological bases always have on hand is made closest approach to cardiac causes, within these it is common when performing postmortem studies in adults there is a predominance of atherosclerosis as an explanation for the death but charges a vital presence of intramural coronary in previously healthy young people without a family history of cardiovascular disease who have sudden collapses, and that studies made has been documented that this anomaly may go undetected for years to be asymptomatic and debut a sudden death with a subsequent finding in the study of the autopsy. For this reason it is necessary to travel a thorough examination of the coronary arteries for possible evidence that intramyocardial bridges combined with the pathophysiological explanation expressed in this review give light to reach a conclusion on the death

PP-231

Epidemiological profile of the violent death by a firearm projectile: rétropsective study of 05 years in the region of Annaba

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I. Introduction: Deaths from firearms projectiles take a significant place in our activities; they pose many problems that the forensic pathologist must know them well.

II. Objective: 1. identify the epidemiological profile of deaths from firearm projectile.

III. Material-methods: The study that we present is retrospective, descriptive, over a period of 05 years from January 2005, until december2009), dealing with death by a firearm projectile have undergone a medical autopsy judiciary.

IV. Results: The incidence of violent death by gun shot to 4 % of the activity thanatological;

A clear male predominance was noted;

The more the subject is old, the less attacked. Lesions of the cephalic end are the most experienced, the forensic examination has given an insight into the direction of fire, alcohol is rarely found in our sample. A clear predominance of long guns was noted.

V. Conclusion: Violent death by firearm projectile is clearly increasing, it relates more boucoups the elderly, the seat of injury is represented mainly by the cephalic end, the forensic examination has determined the circumstances killed and made to reconstruct the record.

PP-232

Analysis of 354 female homicide cases in Shanghai from 2006 to 2009

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Homicide death of women is a lost both to the family and society, and the female homicide cases partly reflect area safety. The information of 354 cases of female homicide deaths in Shanghai from the Institute of Forensic Science, Shanghai Security Bureau from 2006 to 2009 were collected and analyzed in terms of age, cause of death (COD) and cause of case.

The data showed that the mortality of homicide deaths in women decreased recently as the total homicide victims in Shanghai (table 1). 354 women were killed with the rate from 0.1/1000 to 0.16/1000 among women in Shanghai, and 26.87 % of the total 1325 cases due to homicide. The age distribution of 354 victims ranged from new arrival to 93, with a median age of 36. All victims were divided into 7groups according to their age: <1y, 1y-6y, 7-17y, 18-40y, 41-65y, 66-85y and >86y. 202 women (57.1 %) in the group of 18-40y were killed, followed by the group of 41-65y (26.8 %, table 2).

Data showed 317 female victims died from single cause. Mechanical injury was the most common COD (178 victims, 50.3 %). 121 victims died due to hemorrhagic shock, 47 to craniocerebral injury, 5 to traumatic shock, 4 to pericardium tamponade, and 1 to crush syndrome. Sharp instrument was the most common object (127 cases, 35.9 %), and 93 victims were killed from stab, 34 from chop. Mechanical asphyxia was the second common COD (137 victims, 38.7 %), 68 women died due to manner strangulation, 18 to strangulation, 9 to smothering, 8 to drowning, and 4 to choking. 2 victims were killed by electricity, 1 by gunshot to head. 33 victims died from two or more causes, such as mechanical injury complicating by mechanical asphyxia. The causes of 4 cases were unknown. 6 infants were killed due to mechanical asphyxia.

Data showed that the causes of 354 cases were different, 78 female victims died because of family conflict, 74 of robbery, 51 of rape, 45 of love imbroglio, 35 of dispute, 34 of revenge, and 6 of infanticide. 14 were died due to other reasons, such as kidnap. 17 cases were without clear reason. It's necessary for us to pay attention that 63 female were killed by their husbands, 45 by their lovers and 11 by their sons.

It is essential to establish protective system to prevent harm to women, not only from public security, but also from family.

PP-233

GENDER VIOLENCE: mechanical asphyxia in airport

Viagnney Beatriz Bravo
bravo viloria viagnney

The case involved a woman of 33 years identified that the September 8, 2009, is located in the interior of an airport hangar in the city of Medellin, which is lying on the floor in a natural position, the upper and lower are attached

On inspecting the body was found with a beige jacket, two black plastic bags, a black plastic bag and a white towel completely covers the head. In the neck there is a black colored cord, after removing the packaging of the body is a young woman with bruises and abrasions on the lower third of the right forearm and left and lower right leg and left. signs of mechanical asphyxia eyelids as facial petechiae, buccal mucosa, palate, conjunctival hemorrhage, facial cyanosis. sexologist and toxicological study is performed. One of the points is important is sexual assault, and signs of restraint. Findings documented a complete autopsy, toxicological and serological studies allows us to conclude the case

PP-234

Death of an adult woman after attack by two Rotweiller breed dogs: discussion about "pack attack" and postmorten anthropophagy

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We present a case report of a death of an adult woman after unwittnesed attack by two rottweiller breed dogs. Recent medicolegal literature has been reporting deaths by dogs attack in juveniles, but death of adult humans after dog attack are not common. Dog behaviour of pack attack and individual dogs attacks have different profile of autopsy findings in death cases. Postmortem anthropofagy has been reported but antemortem anthropofagy in case of attacks to adult humans is not common.

Material-methods: The crime scene was throughfully analyzed and the results of a complete medico legal autopsy after EC 99/3 Recommendations were resumed. The wounds were located in head and right arm, with severe and unusual lesions including amputation and posible intake by dogs of ears and scalp. Lesions had typical characteristics of dogs bites and dog nails wounds.

At least 6 out of 7 typical dog attack findings were elucidated in this case. The reconstruction also suggested an attack by only one dog even though first approach at crime scene had suggested a pack attack by both dogs.

Examination of dogs after dead was performed by a forensic pathologist but a complete veterinary autopsy could not be performed against pathologists advice. The study was completed by complementary samples for biological, toxicological and histopathological analysis and teeth casts were collected.

Conclusions: A list of recommendations in case of medicolegal autopsy due death by dog attack is included. A list of 7 typical findings in this scenario were also included. The location and morphplogy of wounds can help to differenciate pack attack from single dog attacks.

PP-235

Postmortem Animal Predation. Effects of ants in death bodies

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Shkrum and Ramsay define postmortem changes as the great pretenders. Postmortem predation by animals is one of the most confounding factors between these changes. Sometimes animal predation can produce postmortem damages that mimic antemortem lesions. Other times they completely distort real antemortem lesions turning them imposible to analyze precisely in the cadaver.

In the medicolegal literature different animals have been considered postmortal predators: domestic cats and dogs but also some wild big mammals and sea animals. Insects can be predators on the cadaver but also can interfere with other species of cadaveric fauna. Ants are an unusual case between insects as their predation action can start little after death and even many time before putrefaction starts. They also use to avoid other insects to attack dead bodies until they have finished their predation.

Ants use to bite the skin of the cadaver. The lesions they produce after death can be wide, without vitality signs and with a typical morphology. Injuries have a dry appearance and are usually brown coloured. Sometimes lesions in the skin can be misinterpreted as chemical lesions or abrasions. Bleeding is not exceptional in case of lesion in lower anatomical areas due to hyposthasis. Typical location of lesions are lips, eyelids and knuckles. In case of eyelids injuries, typically eyelashes are also absent.

We present an unusual case of a massive skin attack of a dead adult male who was attacked after death by a colony of domestics ants. He was also exposed during some 36 hours to heat and dry conditions. The postmortal lesions were exceptionally extent and wide, but typical profile of lesions suggested that all cutaneous lesions observed were due to ants predation.

PP-236

Sudden unexpected death of an infant due to transmesocolic internal hernia

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We present a case report on a forensic autopsy performed in a 5 years old boy. The kid suffered an obstruction of small bowels, intestinal hemorrhagic necrosis and secondary shock produced by a transmesocolic internal hernia. The hernia was related with a congenital defect in the mesentery. A brief bibliographic review on general features of this anomaly and internal hernias was conducted. It is exceptional that an anomaly of this type can cause sudden death in adults or infants.

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Strangulation signs and heat effect after arson. Homicide signs dissimulation

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n recent medico-legal literature, there are some references about application of heat to disguise signs of mechanical asphyxia. They have been described case reports of dissimulation of suicidal hanging by secondary arson. In two cases in the literature reviewed heat effects in an arson were used to hide signs of an homicidal strangulation. Heat effects are seek to disappear mechanical asphyxia signs and most usually these signs can be completely absent after arsons.

We present a case report of an autopsy performed after a homicidal strangulation. The dead body was located under a car and the car was set to fire for some hours. The heat effects on the body were severe with partial amputation of extremities and destruction of nearly all cutaneous surface. Nevertheless a portion of the strangulation lace and skin furrow remained unaffected. Radiographic and histopathological analysis confirmed that these injuries were produced antemortem, leading to the final diagnosis of homicidal strangulation and secondary dissimulation by arson.

Out of an evident iconographic interest of the photographies, this case report also highlights the importance of a complete and careful crime scene investigation in arson scenarios. Judicial Police technicians but also firemen and medical emergency teams must be aware of this issue.

PP-238

Unusual Mechanism of Death in a Road Traffic Accident: a case report

Banwari Lal Meel
Banwari L. Meel

Road traffic accidents are associated with deaths due to different mechanisms. Loss of blood as a result of multiple injuries is the commonest in majority of cases. The severity of these injuries depends on the force of impact of a vehicle. The speed, type of car, and direction of impact are the main determining factors in causation of injuries.

This article presents uncommon cases of RTA deaths. The first case is one of instantaneous death by a head on collision. There were multiple large lacerations on both legs and thigh associated with fractures of leg, thigh and pelvic bones, but almost no blood was found at the scene. The foul play was suspected. The history and autopsy findings have been discussed.

PP-239

Postmortem interval degradation using 18 s-rRNA and microRNA

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Background: The importance of determining postmortem interval (PMI) is crucial to criminal, civil and forensic cases. The precise estimation of PMI is a critical step in many death investigations. A technique exploiting the level of RNA, 18 S rRNA and microRNA, to estimate the PMI was investigated. 18 S-rRNA is a main ribosomal RNA presented as part of ribosomal protein complex, while microRNA is a class of small non-coding single-stranded RNA, only 21–25 nucleotides, has a strong conservation between different species.
Method: In this study,heart tissues were removed from adult rats at various postmortem intervals. An efficient extraction and detection protocol to analyze the level of 18 S-rRNA and microRNA in postmortem tissue was carried out. The process contains total RNA extraction, transcription and visualization by quantitative real time PCR.
Results: The result indicates a characteristic parabola relationship between postmortem period and Ct values for 18 S-rRNA in dead rat hearts. Then, five human case heart tissues, whose PMI were exactly known PMI) were used for PMI estimating evaluation using 18 S-rRNA.
Conclusion: The result indicates the degradation pattern of tissue 18 S-rRNA and microRNA is useful in the determination of the postmortem interval within seven days.

PP-240

Quantification of microRNAs, mRNA, 18 S rRNA in three temperature groups degradation as potential markers of postmortem interval

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Background: The estimation of time since death which is known as postmortem interval (PMI), has been regarded as the most essential and elusory mission in the legal medicine science. In recent years, time-dependent degradation of RNA has been gradually applied for determination of PMI with real time PCR universally used in the molecular biology experiments. However, the use of mRNAs were limited resulting from their own shortages, meanwhile, temperature as key factor impacts RNA decay was not profoundly explored ever. Micro RNAs are belong to a family of small non-coding RNAs, which depress and silence mRNAs translating into proteins. Contrary to the traditional mRNAs, the hundreds of them found only have 18-24 bp, thereby they could be more stable; inconsistent primers and aspecific amplification can be also eliminated.
Method: We re-examined and evaluated the degradation of 18 S rRNA, GAPDHmRNA, β-actinmRNA and microRNAs (miRNA-9 of brain, miRNA-21 of kidney and miRNA-203 of skin) extracted out of three tissues(brain, kidney, skin) of SD mice from 0 to 120 h in three temperature groups(4°C, 15°C and 35°C). And assessed reliability of qualitative RT-PCR method for RNAs.
Results: Based on the data obtained, we found the Ct value of four candidate makers of each tissue showed up-regulate before down-regulate in three temperature groups. According to this findings, we tried to build mathematic model certified subsequently by human tissue samples of collection.
Conclusion: The results suggest that in the three temperature groups each tissue has its own maker and endogenous control to be the potentially powerful adminicle of determination of PMI.

PP-241

Histochemical characteristics of human myocardium obtained from individuals who died due to low oxygen tension or ATP consuming

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Detection of early myocardial ischemia prior to neutrophilic infiltration after postmortem examination is often difficult by HE stain and poses irritation for forensic pathologists.

In this study we performed conventional and immunohistochemical staining of the myocardium obtained at sudden or sub-acute death cases where they died due to bronchopneumonia, smothering, chest compression, nitrogen asphyxia or hypothermia, using HE, Azan and antibodies against cold inducible RNA binding proteins (CIRBP), putative RNA-binding protein 3 (RBM3) and Sirtuin 1 (SIRT 1).Antibodies against CIRBP and RBM3 stained the nucleuses of the myocardial cells obtained from these victims and cardiac infarction death cases with or without resuscitation therapy. Anti SIRT 1 antibody also stained the nucleuses of myocardial cells from these victims, however this antibody did not stain the nucleuses of myocardial cells from cardiac infarction deaths. The staining results reveal that the reflex of the myocardial cells against low oxygen tension and/or ATP consuming situation is able to detect even in the postmortem examination and SIRT 1 antibody might be useful to distinguish the partial lesion, cardiac infarction, from the whole body lesion in the low oxygen tension and/or ATP-consuming situation at postmortem examination.

PP-242

Anatomical and forensic pathological study on the thymus

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The thymus is derived from both ectoderm and endoderm of third branchial clefts and descends into the mediastinum during gestation. Accessory thymus bodies may also originate from the fourth pharyngeal pouch. They may be left in the neck or be embedded in the thyroid. In this presentation we firstly show 3 infant autopsy cases in which the ectopic thymus existing inside or outside the thyroid glands. The involution of the thymus is accelerated by many kinds of stresses. Although Hassall's corpuscles that present in the thymus at 11th gestational week are developing and disappearing with age, the morphological changes of the Hassall's corpuscles are also inflicted by the stresses. We secondly show the thymus involution and morphological variations of Hassall's corpuscles when infants or juveniles are affected by stress such as abuse, injuries and/or infections. Experience from autopsies indicate that thymus involution may occur in the prolong stress and morphological changes of the Hassall's corpuscle may occur prior to thymus involution in a short durational stress.

PP-243

Histopathological characteristics of human cardiac tissues in accidental hypothermia 1. Approach using conventional staining techniques: Azan-Mallory staining might be useful for detection of myocardial damage due to hypothermia

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We examined characteristics or cardiac cell damage in the myocardium obtained from individuals who died due to hypothermia or coldwater immersion by conventional staining such as HE and Azan. We could find four kinds of histological changes in the heart tissues obtained from hypothermia and coldwater immersion death, that is, 1) The cardiac cells remarkably closed adherence to each other, 2). The number of red or orange colored cardiac cells by HE or Azan stain, respectively, was frequent than that of control. 3). The cardiac cells with severe vacuolar, colliquative myocytolysis, were identified in the papillary and left ventricle muscles. 4) The contraction bands in the cardiac cells were recognized in all section from the septum of the hearts obtained from hypothermic and coldwater immersion death. Although the red or orange colored cardiac cells, vacuolar cardiac cells and contraction band of the cardiac cells were observed in the heart from individuals with other cause of death, the frequency and intensity of the finding was remarkable in hypothermic death, and closely adhered cardiac cells were detected only in the myocardium from hypothermic or coldwater immersion death. To detection these findings Azan staining may be useful than HE stain. We additionally discussed the mechanisms of development of these findings by comparing the results obtained in this examination with some reports in the literatures.

PP-244

Sex steroid receptors as a tool in determination of postmortem interval

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Determination of the postmortem interval PMI is one of the most valuable subjects in forensic practice. So the aim of this study was to detect postmortem interval by evaluating the distribution of sex steroid

receptors (androgen and estrogen) in rat brain and testis by immunohistochemical study. For this purpose 40 male rats were used in this study and were classified into 4 groups each of 10 rats. Groups were examined at 0, 6, 12 and 24 hours after death respectively. Regarding brain, the results of the study revealed that Androgen Receptors (AR) immunoreactivity were widely distributed throughout all layers of the cerebral cortex, but the highest numbers of them were found in the large pyramidal cell layer. Cells showing Estrogen Receptors (ER) immunoreactivity were widely distributed throughout all layers of the cerebral cortex, but the highest numbers of them were found in the polemorphic cell layer.

Both AR and ER immunoreactivity showed marked changes in relation to time interval, the intensity of the immunostaining was reduced noticeably, and the positive cells were decreased in number gradually with time. As regards testis, AR immunoreactivity was very weak immediately and 6 hours after death, and there was no expression in the remaining time intervals. So the study concluded that expression of some sex steroid receptors immunoreactivity in brain and testis can be used to detect early postmortem interval.

PP-245

Immunohistochemical investigation of the coma blister

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Background: The erythematous patches and vesicles that are observed in coma patients, usually from an overdose of medication, are known in the dermatology field as coma blisters. In this study, we immunohistchemically examined such skin lesions from two forensic autopsy cases.
Case reports: Case 1 was a woman in her thirties. The lesions were observed in the left femoral region, the lower left thigh, and the right knee. Case 2 was a woman in her twenties. The lesions were observed on one of her fingers and the edges of both feet.
Toxicological analysis: Using gas chromatography–mass spectrometry (GC-MS), toxicological analysis detected caffeine, ibuprofen, bromovalerylurea, bromoisovaleric acid, and ethoxybenzoic acid in the blood of case 1, and the caffeine was over the toxic level as compared with the literature. In the blood of case 2, pentobarbital and phenobarbital were detected, with pentobarbital at a fatal level.
Pathological findings: Histological examination of the skin lesions showed that the keratinocytes had necrosed and the epidermis was partly thin in both cases. Eccrine sweat gland degeneration was observed. Obvious inflammatory cell infiltrations were not detected. According to previous studies, it is believed that coma blisters are formed from local low oxygen and/or pressure. However, it is unknown whether the degeneration of the sweat gland is a necrosis or apoptosis. Immunohistochemically, each skin lesion was stained against CD3, CD8, CD45RO, keratin, 70 kD heat shock protein, ubiquitin, and 150 kD oxygen regulated protein. They were also stained with an in situ apoptosis detection kit. In this paper, we report our findings from this immunohistochemical study.

PP-246

Forensic Considerations of Pregnancy-related Maternal Deaths: An Overview

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During the 20th century, risks to women associated with childbirth in developed countries have been dramatically reduced on account of many factors that include technological advancements in obstetrical care, greater access to health services and fewer births occurring at the extremes of women's reproductive age span. However, pregnancy-related maternal deaths continue to be a major health concern in developing countries. In the year 2005, an estimated 536,000 women died of maternal causes worldwide of which 86 % occurred in sub-Saharan Africa and South Asia and less than 1 % in more developed countries. The large regional differences in maternal deaths demonstrate that most of these deaths are preventable. It is nevertheless important to monitor patterns of pregnancy-related mortality and serious morbidity and to be sensitive to what observed patterns or changes may tell us in order to continue to safeguard women during this critical period and the monitoring process must begin with ascertainment of the accuracy of routine reporting of deaths associated with pregnancy and childbirth. We examine the pregnancy-related maternal deaths with a forensic view point.

PP-247

Liver cirrhosis as a possible risk factor of injury death: Evaluation of forensic autopsy cases using postmortem biochemistry

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Background: Liver cirrhosis can be a risk factor of injury death, predisposing patients to hemorrhage, tissue edema and other organ dysfunction; however, it is difficult to interpret the contribution to the death process based on pathological evidence. The present study investigated forensic autopsy cases of injury death with regard to the influence of preexisting liver cirrhosis on hepatic dysfunction after injury and the survival time using biochemical markers.
Methods: Serum albumin (Alb), cholesterol, bilirubin and choline esterase (ChE) in bilateral cardiac blood were measured in forensic autopsy cases of injury death without evident decomposition (n=361, within 72 h postmortem). Cases included fatalities from sharp instrument injury (n=61), non-head blunt injury (n=123), and blunt head injury (n=177), with/without the complication of liver cirrhosis (n=85/276). Each injury group was subdivided into subgroups of survival time of <0.5 h, 0.5–12 h, 12 h–2 days and 2–30 days, and cases with and without medical treatment in hospital in each survival time subgroup.
Results: Liver cirrhosis was less frequently involved in fatalities with survival time of <0.5 h (11.7 %) than in longer survival cases (28.8 %). In cases without medical care, serum Alb, cholesterol and ChE levels were slightly lower in those with than without liver cirrhosis in sharp instrument and blunt head injuries; however, non-head blunt injury cases without liver cirrhosis showed a tendency toward a survival time-dependent decrease in serum Alb, cholesterol and ChE. In deaths despite medical care in hospital, these serum markers were usually lower than in cases without medical care in subgroups with survival time of >0.5 h, and were higher in blunt head injury than in other injuries in cases without liver cirrhosis. In non-head blunt injury cases, serum Alb, cholesterol and ChE levels were higher in those with than without liver cirrhosis in deaths with survival time of 0.5–12 h and 2–30 days, but were lower in deaths with survival time of 12 h–2 days. Such findings were not detected in blunt head injury cases.

Conclusions: These observations suggest that liver cirrhosis can be a risk factor of injury death in subjects who survived the acute phase under medical care in hospital. In non-head blunt injury deaths under intensive medical care in hospital, liver cirrhosis can be a predisposition aggravating hepatic dysfunction during a survival period of 12 h–2 days; however, such influences of liver cirrhosis were different in other cases.

PP-248

Postmortem investigation of amino acids in heart blood and pericardial fluid and the Fischer ratio as markers of hepatic dysfunction

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Background: Postmortem biochemistry has become a potent ancillary procedure in the forensic investigation of death. Serum free amino acids and the Fischer ratio are clinical markers of metabolic disorders due to inborn errors, inadequate nutrition and liver disease; liver pathology does not always correlate with the function. These markers may also be applied to evaluate hepatic damage as part of multiple organ dysfunction syndrome (MODS) resulting from severe traumas and diseases. The present study investigated the Fischer ratio of free amino acids in bilateral cardiac blood and pericardial fluid (PCF) in medicolegal autopsy cases, compared with other serum markers of liver function.
Methods: Free amino acids in bilateral heart blood and pericardial fluid (PCF) were measured in medicolegal autopsy cases without evident decomposition (n=184, within 60 h postmortem), and the Fischer ratios of amino acids were estimated. These were compared with serum reference markers, including albumin (Alb), cholesterol, bilirubin and choline esterase (ChE). Cases were classified into: a) advanced liver disease (fatality from liver disease, n=15), b) other natural deaths with survival time within 2 days (acute illness, n=18) and c) over 2 days (prolonged illness, n=21), and d) traumatic deaths with survival time within 2 days (early traumatic death, n=90), and e) those with survival time over 2 days (delayed traumatic death, n=40).
Results: There were good site-to-site correlations of free tyrosine (Tyr) and phenylalanine (Phe), the Fischer ratio and reference markers, although a slight postmortem time-dependent increase was partly detected. Postmortem serum and PCF levels of free Tyr and Phe were markedly higher than clinical reference ranges and were especially high in fatality from advanced liver disease. The Fischer ratio approximated the clinical serum value and was lower in cases of fatality from advanced liver disease, other prolonged illness and delayed traumatic death. Most of these subjects also had low serum Alb, cholesterol and ChE levels, and increased serum bilirubin in some cases; however, low serum Alb, cholesterol and ChE levels were also detected in other cases. In addition, isolated low serum ChE was detected in a case of organic phosphate pesticide intoxication.
Conclusions: These observations suggest that the postmortem serum and PCF Fischer ratio can be used as markers for biochemical evaluation of the severity of hepatic dysfunction due to liver disease, prolonged illness or trauma as the cause of death or contributory disorder, combined with other reference biomarkers, in consideration of hepatic pathology.

PP-249

Evaluation of postmortem serum gamma glutamyl transferase as a marker of hepatobiliary disorder

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Background: Postmortem biochemistry has become a potent ancillary procedure in the forensic investigation of death. Serum gamma glutamyl transferase (GGT) is a routine clinical marker for investigating hepatobiliary disorders and chronic alcohol abuse. Previous studies suggested its application in postmortem diagnosis of alcohol abuse but also an increase due to systemic deterioration following critical traumas and diseases. The present study investigated serum GGT in bilateral cardiac blood in medicolegal autopsy cases, compared with other serum markers of liver function.
Methods: Postmortem serum GGT levels in bilateral cardiac blood were measured in medicolegal autopsy cases without evident decomposition (n=184, within 60 h postmortem), and were compared with serum reference markers, including albumin (Alb), cholesterol, bilirubin and choline esterase (ChE). Cases were classified into: a) advanced liver disease (fatality from liver disease, n=15), b) other natural deaths with survival time within 2 days (acute illness, n=18) and c) over 2 days (prolonged illness, n=21), and d) traumatic deaths with survival time within 2 days (early traumatic death, n=90), and e) those with survival time over 2 days (delayed traumatic death, n=40).
Results: There were good correlations between bilateral cardiac blood serum levels of GGT and reference markers, although left cardiac serum GGT showed a slight postmortem time-dependent increase. Serum GGT did not show any significant correlation with other markers, and increased GGT level (>300 U/L) was mostly detected in cases of liver cirrhosis/tumor, independent of the cause of death groups, as well as in fatal alcohol abuse. Cases of liver disease had significantly higher right/left cardiac serum GGT than other cases ($p<0.001/p<0.05$); however, lower GGT with hyperbilirubinemia was detected in fatality from advanced liver disease. For reference markers, Alb, cholesterol and ChE were significantly lower but direct and indirect bilirubin were significantly higher in subjects with than without liver disease ($p<0.001$–0.05).
Conclusions: Serum GGT was independent of other markers of liver function, showing an increase in cases of liver cirrhosis/tumor and in fatal alcohol abuse, but lower serum GGT with hyperbilirubinemia in fatality from advanced liver disease, suggesting end-stage hepatic failure, as seen in clinical patients. These observations suggest that postmortem serum GGT can be used as a marker for biochemical evaluation of the severity of liver disease as the cause of death or contributory disorder, and of fatal alcohol abuse, combined with other biomarkers of liver function, in consideration of hepatic pathology.

PP-250

Suicide by cutting the electrical cable of left ventricular assist device (A case report)

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Left ventricular assist device is used as a permanent therapy in patients with severe heart failure that are not candidates for organ replacement. It consists of a blood pump implanted in a patient's chest just below the heart. An electrical cable that powers the blood pump passes through the patient's skin to an external controller worn around the patient's waist. We present a rare case of a 72 years old man suicide: He found dead by his wife on his house stairs when she returned home in a small town in Greece. He was transferred to the local hospital were pronounced dead. He suffered from severe heart failure since many years and had implanted left ventricular assist device two years ago. The autopsy of the case took place in Forensic Service of Ministry of Justice in Thessaloniki - Greece revealed suicide by cutting the electrical cable of the device.

PP-251

crime and alcohol

Atika Cherouat, Dalila Laidaoui, Azzeddine Mostefaoui, Fatiha Merah

crime is on the rise again in Algeria, factors related to such violence are omnipresent whose alcoholism that causes abnormal behavior of the alcoholic by the author and sometimes the victim

Through a retrospective study of autopsies in forensic chu beni messous records of victims of violence received in the consultation and those forensic inpatient care unit in our prison we report the severity of the involvement of alcohol in the genesis of violence

PP-252

Sudden death during thoracoscopy: a case report

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Background: Introduced by Jacobaeus in 1910, medical thoracoscopy is a valuable diagnostic tool in patients with pleural pathology, especially when thoracentesis and pleural biopsy procedures do not provide a definitive response.

Medical thoracoscopy has the advantage that it can be performed under local anesthesia or sedation, using reusable rigid instruments, being less invasive, less expensive and relatively easy to be learnt.

Among the complications, severe hemorrhage, due to blood vessel injury during the procedure is the most severe, whereas the most serious complication of pneumothorax induction is air or gas embolism, which occurs very rarely. Mortality is very rare.

Case report: We report the case of a 72-year-old woman who died during thoracoscopy. She was admitted to hospital because of a severe thoracic pain. Her medical history revealed obesity and high blood pressure. Apart from anti-hypertensive therapy she was not under any medication. She presented also with dyspnea and fatigue. ECG was negative.

The day after fever set in with a right-inferior thoracic hypophonesis. A thorax X-ray was performed which showed pleural effusion. TC confirmed abundant pleural effusion with collapse of the nearby lung. To identify the problem a thoracoscopy was attempted. However, as soon as the optic was introduced, the patient started to present with haemoptysis and suddenly died by cardiac arrest. At the autopsy a pleural empyema and three little lesions of the lung parenchyma were found.

Conclusions/discussion: Thoracoscopy is a well-established and safe technique and deaths are rarely reported. Only two out of nine retrospective studies reported fatalities with one case each.

The present case is peculiar because death took place in a few minutes and because the lesions of the lung parenchyma, though iatrogenic in their nature, cannot be the only cause of death. A complex and faster mechanism should be suspected. In vivo experiments reported that mechanical stimulation of the pleura may induce an immediate decrease in both phrenic discharge and arterial blood pressure. Hence in this case, a vasovagal reflex combined with bleeding from the pulmonary perforations might be involved in causing death.

PP-253

Fatal non-traumatic intra-peritoneal haemorrhage in portal hypertension: a very rare autopsy diagnosis to be reached with caution

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The identification of a large volume fatal haemoperitoneum at medico-legal autopsy, which is unexpected by history, demands a detailed and careful exploration of the abdominal cavity to establish the cause of bleeding. The likely source will depend to a certain extent on the nature of the pathologist's practice. In the hospital setting, post-procedural induced vascular damage or ruptured ectopic pregnancy or tumour, may for example be responsible. In community deaths, or were a history is lacking, it is particularly important to exclude accidental or homicidal trauma to the abdominal contents: tearing to the liver, spleen or mesentery, with or without, surface and soft tissue injury being the key pathology to look for. However, unusual non-traumatic natural causes do occur. Bleeding from intra-abdominal varices have been very rarely well documented at autopsy, and the exact bleeding site is usually not identified. Clinical examples are better defined because the active bleeding guides the surgeon to the source and some patients survive if the haemorrhaging can be dealt with surgically. Varices around the kidney and colon, as well as in the mesentery, retroperitoneum and peri-umbilcal tissues, have been considered to be responsible.

We present two autopsy cases of unexpected fatal haemoperitoneum in subjects with advanced liver disease and associated portal hypertension, which we ascribe to bleeding from intra-abdominal varices. Both cases demonstrated cirrhosis, splenomegaly, non-bleeding oesophageal varices, focal dilated vascular elements in the mesentery and retroperitoneum, along with large and obvious dilated venous channels in the para - umbilical fat. A non traumatic aetiology was only reached after a thorough police investigation into the circumstances leading up to death and following a meticulous autopsy which failed to reveal any evidence of trauma to the body, including the abdominal wall and contents.

We recommend that fatal haemoperitoneum due to intra-abdominal (ectopic)varices should be diagnosed rarely and only after the approach described above. Satisfactorily excluding trauma is particularly difficult in alcoholics who form the vast majority of subjects with portal hypertension in medico-legal practice in Europe. These individuals bruise easily, fall and not uncommonly become involved in physical altercations.

A systematic autopsy protocol including photographic and histological confirmation of all key positive and negative findings is therefore clearly advised.

PP-254

Multiple Stabbing In Sex-Related Homicides

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Introduction: Sexually driven homicides may be a consequence of sexual deviations, but more often the the main cause is the emotional component in a non-paraphilic person. It is known that multiple stabbing homicides are the result of a highly expressed affect of the assailant. This study is trying to establish if those homicides are, in its core, related to the sexual motives of the murderer.
Methods: This is a retrospective autopsy study which includes 770 cases of homicides observed by the motive and manner of homicide, age and gender of the victim, acquittance between the victim and the assailant. Motives of homicides were classified as non-sexual and sexual, including homicides related to rape, jealousy, cheating in a relationship, deviant sexual behavior of psychiatric patients, paraphilia, disturbed emotional relationship between victim and assailant, both hetero- and homosexual.
Results: Multiple stabbing homicides (>=3 stab wounds) are significantly more often in sex-related homicides than in any other group. Changing the criteria for multiple stabbing (>=4, 5,. or 25 stab wounds), the percentages of sex-related homicides rise in every group. The correlation coefficients between multiple stabbing and sex-related homicides regarding gender are all near 0.9. Homicides in the female group committed by 25 and more stab wounds are 100 % sex-related. Statistically, jealousy was the most frequent reason for sex-related multiple stabbing homicides.
Conclusion: The first idea, during a police investigation of a multiple stabbing homicide, regardless to the age and gender of the victim, should be that it is a sex-related homicide, especially if the victim is female.

PP-255

Forensic approach of a bite, caused by watchdog - about a observation

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While mild bites dog remain a very common phenomenon; fatal attacks are rare.

The main purpose of this work is to reflect the dangers of certain types of guard dogs and to highlight the assessment of the lesions secondary to the fatal attack, so special.

The author of this work is to present a exceptional case a fatal attack by a guard dog, with evidence of atypical lesions external and internal.

PP-256

Rupture Of Splenic Artery Aneurysm In Late Pregnancy: A Case Report And Review Of Literature

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Aneurysms of the splenic artery are the most common visceral artery aneurysm. Rupture of an aneurysm occurs predominantly in late pregnancy. Its consequences can be devastating for both mother and foetus, associated with high rates of maternal and foetal mortality. We report a case of 37-year-old woman, multiparous, in the 32th week of pregnancy, died suddenly at home.

At autopsy, only the abdominal examination was remarkable. Abundant blood (approximately 3.5 l) was present in the peritoneal cavity, and a voluminous blood clot occupying the splenic bed was noted. The spleen was in normal shape and weighed 470 g.

The abdominal aorta and main branches were intact. The splenic artery was isolated inside an abundant hemorrhagic infiltrate. Examination revealed rupture of the arterial wall at the level of an aneurysm measuring 3.4 cm in diameter situated approximately 7 cm from the splenic hilus. No other fusiform dilations presented along the course of the vessel towards the hilus. Samples of the arterial wall at the level of the aneurysms and of intact wall tracts were taken.

Microscopic examination of the sections stained by standard methods demonstrated that the aneurysmatic wall was composed of a fibro-muscular layer with fragmentation of the internal elastic lamina.

The aims were to provide an up to date review of the aetiology, clinical features, diagnosis and management of splenic artery aneurysms and their rupture during pregnancy.

PP-257

Changing Patterns of Suicide in North Tunisia

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Introduction: The scope of activity in forensic thanatology includes four main circumstances of death: natural deaths, accidents, homicides and suicides.

We focused on studying the evolution of suicide rates in the thanatological activity of Department of forensic medicine in Charles Nicolle Hospital of Tunis, which taps the whole north of Tunisia. The interest of this study is that the year 2011 was outstanding for thanatological activity of our department since there were unique social events resulting from the revolution.
Method: We carried out a comparative study focusing on changing patterns of suicide during the last eight years. We compared cases of suicides from 2004 to 2011.

In addition to comparing the different rates of suicide, were compared various parameters: sex, age, way of suicide and the means used by victims.
Results: As expected suicide was very affected by events that are occurred in Tunisia.

The suicide rate has increased from 8 % in 2010 to 9 % in 2011 while during the previous years it had not exceeded the 5-7 %. The hanging has always remained the most used mean over the years.

However immolation, that became the representative act of our revolution, has notably very high rates in 2011 compared with other years. Indeed, the rate of immolation has risen from 5 % in 2005 to 9 % in 2008 then to 29 % in 2011.

Moreover we also noticed an increase in suicide rates by firearms with five cases reported in 2011 against only one case per year for the rest of the other years.
Conclusion: Social events that occurred during the last year in Tunisia had deeply affected thanathological activity in Forensic Pathology Department of Charles Nicolle hospital in Tunis. Compared to the rate of homicides by firearms, suicide rates have changed significantly during this year as well as the characteristic of suicide as the means used and the manner to do that act.

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Fatal meat aspiration: about four cases

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In adults, Cafe coronary deaths occur in individuals who are either clinically inebriated or have clinically significant neuro-muscular dysfunction.

Often the aspiration event is not witnessed, and therefore there is no history of aspiration.

We present the sudden unexpected deaths of four adults that were first thought to be due to coronary heart disease however autopsy findings revealed a larynx obstruction by meat.

The mechanism of death was an airway complete obstruction resulting in asphyxia because the meat was glued to the larynx. In the four cases the victims died during or a short time after a meal.

This accident requires the conjunction of some factors: a foreign body (meat), an event encouraging (alcohol, etc.), sometimes a predisposed land as a bad dental status,.

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The role of sternum bone marrow analysis in forensic setting: new perspectives

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Background: In the field of forensic sciences, some authors have suggested the usefulness of Bone Marrow (BM) as alternative matrix, especially in post-mortem toxicology. Nevertheless, there is a lack of studies regarding the potential role of BM analysis in understanding the pathophysiological changes in response to systemic stimuli (stress, infections, allergy). The importance of such tissue in clinical practice is well known and routinely used in diagnosing several blood disorders. Other studies have strongly suggested that inflammatory cells originating from the BM contribute to sustain pathophysiological processes, e.g. allergy, sepsis, healing wounds. The authors analysed BM samples for evaluating their cytomorphological and histopathological features in several causes of death.
Method: BM samples were collected from 70 autopsies performed in the Institute of Legal Medicine of Bari (Italy) and in Charitè University of Berlin (Germany). The causes of death were both natural and traumatic. BM samples were collected from the sternum by needle aspiration and osteomedullary biopsy. Aspirate films were stained with a May-Grünwald-Giemsa stain. Biopsy were decalcified, fixed, and stained with Haematoxylin Eosin staining.
Results: It was observed that hematopoietic tissue gradually decreased with aging, both in aspirate and biopsy. Few autolytic changes of the BM tissue were found if compared to other organs, even if the cellularity decreased with the increase of post-mortem interval (time elapsing from the death to the sampling). In some cases, the cytomorphological evaluation of BM allowed identifying the presence of activated mast cells and eosinophils, where anaphylaxis was not suspected as primary cause of death; these findings were compared with serum tryptase levels.
Conclusions: It is assumed that in the forensic setting the BM sampling of sternum is more suitable than iliac sampling, because sternum is more accessible in routine autopsies without compromising the integrity of corpses. Moreover, the present study shows that the post-mortem analysis of BM can help the forensics in diagnosis of causes of death such as sepsis or anaphylaxis, because that inflammatory cells originating from the BM contribute to sustain these pathophysiological processes, suggesting an involvement of this primary lymphoid organ in several systemic illness.

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Death due to Arrythmogenic Right Ventricular Dysplasia: a case report

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Background: Arrhythmogenic right ventricular dysplasia (ARVD) is a myocardial disease that predominantly affects the right ventricle (RV) and one of the important causes of sudden death in the young and athletes. ARVD is characterized morphologically by diffuse or segmental lack of myocardium in the RV free wall, which is replaced by fatty or fibrofatty tissue, and also histologically by fibrofatty degeneration of cardiomyocytes, which leads to electrical instability and contractility abnormalities. The replacement of the right ventricular myocardium by fibrofatty tissue is progressive, starting from the epicardium or midmyocardium and then extending to become transmural process. Although several theories have been proposed and different genetic variants have been described, the accurate aetiopathogenesis of ARVD is still unknown.
Method: We described an autopsy case who was middle-aged man with sudden death due to ARVD.
Results: A 28-year-old man with no significant medical history, applied to emergency department with feeling ill himself. The electrocardiography (ECG) showed ventricular extrasystoles as well as ventricular arrhythmia. After his initial examinations recommended him to apply the cardiology polyclinics for detailed investigation. The next day he was sickened, when had gone to hospital and he was death when arrived the hospital. White foams around the mouth and nostrils, injection marks on the inguinal and antecubital regions and the dorsal part of left hand, signs of defibrillation paddles on the anterior wall of the chest were detected during external examination. The autopsy showed the heart weight was 560 g and it had a dilated appearance. Dissection of right ventricular wall revealed yellowish fat tissue.
Histologic examination of heart samples, which were obtained from RV and LV, revealed the massive replacement of myocardium by fibrous and mature adipose tissue in right ventericle.
Conclusion: ARVD is a disease of unknown cause, characterized by fibrofatty replacement of the RV myocardium. The diagnosis of ARVD is based on major and minor criteria which include roughly structural, histological, electrocardiographic, arrhythmic and familial features of the disease. ARVD occurs in both sporadic and familial forms. A family history of ARVD is present in 30 % to 50 % of cases. The most common pattern of inheritance is autosomal dominant, although an autosomal recessive pattern has been reported. ARVD is associated with highly variable clinical presentation such as ventricular tachycardia, syncope, RV dysfunction, sudden death etc. In this case there were no symptoms, family and medical history and its clinical presentation was as unexpected sudden death.

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Transsexual Homicides in Ankara, Turkey

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Backround: Transsexuality is a disorder characterized by the development of a gender identity opposed to phenotypic sex. Greater violence in homicides against this people than in those commited against heterosexuals. Committed crimes because of the victims essential and unchangeable features such as race, ethnic identity, nationality, religion, language, skin colour, sexuality, sexual orientation, age, physical and mental disability refer to hate crimes. The crime turn into hate crime when the perpetrator have a hostility against transsexuals and transsexuality is the only reason for homicide. The main objective of the perpetrator is threaten and obsess of all transsexuals. The perpetrator generally create numerous wounds on hate crime victims body. In ten years period included this study, only seven transsexual homicide were committed. Evaluation this rare cases and compare with other cases on this subject is the aim of this study.
Method: Between 2001–2010 years, seven transsexual homicides in Ankara were determined from police records. Then victims autopsy reports were obtained from Council of Forensic Medicine Ankara Group Chairmanship archieves and reviewed them retrospectively in terms of age, findings of external examination, features of wounds, causes of death, results of toxicological and biological analysis.
Results: Seven transsexual homicide victims were choosen for study. Two of them went under sex change operation. Five of them had female view with long and dyed hair, polished fingernails and female breasts. They had circumcised penis. Causes of death were stabbing (two), strangulation (one), blunt head injury (one), blunt head and chest injury (one) and shotgun injury (one). Two stabbing cases had thirty three and twenty nine stab wounds. Ethanol was found in only two cases blood samples. Other toxicological and biological analysis showed no findings. Two perpetrators were arrested while five perpetrators remained unknown.
Conclusion: Transsexual individuals are exposed to dense discrimination and social exclusion in our country. Also they are most common victims for hate crimes. Our study reflects only a small sample of these victims. Comprehensive investigations are needed for understanding the extensiveness of crimes intended for transsexual individuals.

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Prevalence of Blood-borne Viruses Amongst Postmortem Cases in Kuala Lumpur, Malaysia

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Background: Blood-borne viral infections in dead bodies represent a significant occupational hazard during postmortem procedure. Infection status of cases is often not known despite detailed scrutiny of available medical history and associated risk factors. With higher seroprevalence of hepatitis virus and increasing human immunodeficiency virus (HIV) epidemic worldwide including Malaysia, this is certainly an important safety issue amongst pathologists and mortuary personnel performing postmortem examination. Therefore it is crucial to determine their prevalence so that appopriate risk reduction strategies can be employed accordingly during the procedure.
Method: Blood from ninty two sudden death cases were analysed prior to postmortem for HIV, hepatitis B and hepatitis C using both rapid commercial kit tests and confirmatory laboratory method. These sudden death cases were presented to Department of Forensic Medicine, Kuala Lumpur Hospital during a three-month study period and were later determined to have died from various cause and manner of death.
Result: Out of ninty cases sampled, five cases were positive for HIV, nine cases were positve for hepatitis B and two cases were positive for hepatitis C. The corresponding postmortem prevalence of HIV, hepatitis B and hepatitis C were calculated to be 5.4 %, 9.8 % and 2.2 % respectively.
Conclusion: This study highlights the existence of significant prevalence of blood-borne viral infections amongst postmortem cases in Kuala Lumpur, Malaysia. Therefore there is a clear need to establish their status prior to postmortem examination. We recommend, at a minimum, to have blood screening test for HIV, hepatitis B and hepatitis C using rapid commercial kits prior to postmortem of every case as part of overall infection-reduction strategies to be employed by those performimg the procedure.

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Cerebral Damages in Carbon Monoxide Poisoning

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Objective: Carbon monoxide (CO) is a tasteless, odorless, non-irritating but highly toxic gas produced by incomplete combustion of hydrocarbons. The present study aimed to investigate the both macroscopic and microscopic changes in brain tissue of corpses which CO toxicity was their cause of death.
Methods: This study was held on eighty seven victims of CO poisoning over a period of two years (2010–2011). The cases were divided into two groups. Group A contains sixty victims who died before any medical treatments or hospitalization and group B which includes twenty seven patients who died during their initial hospitalization because of the CO toxicity side effects. The autopsies were performed and both microscopic and macroscopic changes were studied. Data analysis was done via SPSS version 11.5.
Results: The investigation included fifty six men (40 cases in group A and 16 cases in group B) and thirty one women (20 cases in group A and 11 cases in group B) with a total average age of 40.1±12.3 years. The mean age was higher in group A than in group B (P value=0.04). Brain edema was confirmed in forty six (52.8 %) victims (35 cases in group A and 11 cases in group B). The two types of cell death occurred in the cortex, basal ganglia, thalamus, and cerebellum. Infarction of the globus pallidus and axonal destruction in white matter was detected in sixteen and nine cases respectively. Cerebral hemorrhagic infarction was noticed in five cases.
Conclusion: Brain damage is one of the most serious and lethal side effects of CO poisoning. We found a relationship between early death occurrence and brain damage severity and age. Hypoxia is the main cause of cerebral damages in CO toxicity. Brain edema was the most frequent finding. The cerebral lesions occur commonly in the basal ganglia, and central gray and white matters. Necrosis of globus pallidus and necrosis or demyelination and axonal destruction in the cerebral or cerebellar white matter were the most common histopathologic changes.

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Identification of internal organs injuries in blunt trauma

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Background: To identify the frequency of lesions of the abdominal cavity and retroperitoneal space, and methods of their diagnosis.
Methods: Materials for the study included 160 case histories of persons injured in 2008–2010, studied at the bases of National Center for emergency medical assistance. The greatest number of all cases of damage to abdominal organs and kidneys were in the age group 20 to 40 years (77 %). On admission, in hospitals, for the diagnosis of lesions of internal organs were used traditional survey methods, which include, along with clinical and laboratory, non-invasive diagnostic methods (ultrasound, X-ray and CT) and diagnostic laparoscopy.
Results: The analysis of case histories showed that the frequency of injury of internal organs among men is much higher than (62.5 %) cases than among women (47.5 %). The most frequently associated damage to internal organs in the form of tears the kidneys, liver, colon, pancreas and spleen occurred in the fall from height (12 %). Isolated damage to the liver in the form of the gap observed in 2 cases, bruised kidneys - in 2 cases, kidney rupture - in 7 cases, a ruptured spleen - in 5 cases, rupture of the colon - in one case, three cases have been established retroperitoneal hematoma. When the automobile injury combined injuries of the abdomen and kidneys were observed (4 %). Isolated damage to the liver in the form of the gap observed in one case, the kidney injury - in 10 cases, kidney rupture - in 2 cases, a ruptured spleen - in 2 cases, 1 case of retroperitoneal hematoma is installed. When beating combined injuries of the abdomen and kidneys were not observed. Isolated damage to the liver in the form of the gap observed in one case, a ruptured spleen - in one case, in 11cases were diagnosed contusions of the kidneys
Conclusions: Combined injuries of the head, chest, internal organs with fractures of the limbs are observed in most cases, the automobile injury. Combined injuries of the abdomen and kidneys are more often observed in the case of a fall from a height, whereas the isolated damage to internal organs are more frequently observed in the automobile injury and beatings. Diagnostic methods (echographic study, computed tomography, diagnostic laparoscopy) can identify the injured and intact zone, reveal the depth and volume of received damages.

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Malrotation Syndrome resulting in fatal Ileus in Children

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Background: This report deals with two infant death cases involving intestinal volvulus, meaning a pathological knotting and twisting of the mesenterial root on the basis of congenital malrotation followed by obstruction and extensive ischaemia.
Case reports: (1) a 2-month-old premature male baby (surviving twin, 29th week) with a persisting Botallo's duct was hospitalised over four weeks after failed surgery, due to acute general deterioration. Radiological diagnostics using a contrast medium revealed a combined vascular anomaly (right-sided aortic arch). Circa 10 hours later the infant developed an acute abdomen with ileus symptoms. Emergency surgery showed infarction of the entire small intestine, due to anticlockwise 180°-volvulus, with death occurring after 24 h. Further examination showed a malrotation as anomaly. Apparently, the volvulus had been caused by extensive use of a contrast medium (dosage +100 %) resulting in increased intestinal mobility.- (2) A 9-year-old girl (premature, 25th week) suffered from severe disability, amaurosis and epilepsy. She was admitted to hospital due to general agitation and a bloated abdomen without peristaltic sounds, but died a few hours later. Autopsy revealed a volvulus of 2/3 of the small intestine, based on congenital malrotation with additional clamping of the intestine underneath a formation of adhesions (previous appendectomy). The abdominal cavity showed beginning peritonitis with a septic spleen what defined the cause of death. Peritonitis had been due to disruption of the intestinal circulation on the basis of congenital malrotation and intra-abdominal adhesions.
Conclusion: The complications and forensic medical implications including the anatomical basics are reported and discussed.

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About the diagnostic relevance of intra-alveolar haemosiderin-deposits in SIDS

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Background: Repeatedly, the presence of intra – alveolar haemosiderin deposits has been discussed regarding its diagnostic relevance. Suffocation and physical child abuse have been considered as possible causes.
Method: Lung samples from 104 SIDS cases (44 females, 60 males) and 14 controls (defined causes of death) with an overall age range from 7 days to 47 months were stained using haematoxylin – eosin and Prussian blue. Haemosiderin foci were counted in 20 high power fields for each lung lobe and assigned to five classes of positivity. Data analysis was carried out by a Levene and a two sample t-test.
Results and conclusion: The mean values came out not being significantly different between SIDS and control cases. This means a lack of possible diagnostic value and highlights the necessity to assess always carefully positive haemosiderin deposits in infants' lungs in order to avoid false suspicion.

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Intracompartimental study of different biochemical markers in c.s.f., vitreous humour and serum in a group of autopsied corpses

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In the present work we have studied the behavior of different biochemical markers (enzymes: LDH; LAP; Aldolase and GGT. And other biochemical analytes: Ca, P, and glucose), in serum, c.s.f. and vitreous humor and its diagnostic implications.

We have studied 85 cadavers the mean age was 58,56 SD+ 21 years from forensic autopsies. The biological samples were obtained during autopsies, and were preserved at -80° C until the biochemical analysis.

Our results show that the diffusion rates are in closed relationships with the molecular size, the most closed relationships are showed between serum and csf, probably related to the vital processes through the hematoencephalic barrier. Only the small molecules are distributed by simple diffusion processes between the three fluids studied.
For diagnostic purposes are very closed c.s.f and serum, but the absence of hemolytic process in csf do more useful the use of the last named fluid for the study of cerebral suffering according with Vazquez et al (1995), Sanchez Rodriguez et al 1993, Coe (1993) and Madea and Musshoff (2007).

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Association Between Age and Thoracic Aorta Circumference - Potential for Application in Forensic Practice

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Background: Age determination in unidentified forensic cases is a fundamental challenge for practical work. Classical methods are often inapplicable in disintegrated and petrifying corpses, indicating a need for additional approaches to the problem. Available literature suggests a strong linear association between age and different aortic dimensions such as diameter, surface above the aortic valve and circumference of thoracic aorta at different anatomical levels. In the present study we aim to identify the strength of the association between age and inner circumference of thoracic aorta at the level of the diaphragm and to develop an equation for determining age based on the circumference of the aorta.
Methods: We studied 729 autopsy cases of deceased from the community – 549 men and 180 women. The age at death ranged from 1 to 93 years with an average for both sexes of 55,4 years. Circumference of thoracic aorta was measured at the level of the diaphragm. The association between age and aorta circumference was assessed through Pearson correlation, and the predictions for age, based on aortic circumference were developed with linear regression analysis. The level of significance was set at $\alpha=0,05$.
Results: There is a strong statistically significant correlation between age and thoracic aorta circumference in both sexes. The coefficient of correlation is 0,841 for men ($p<0,0001$) and 0,829 for women ($p<0,0001$). Aorta circumference is increasing gradually in every 5 year age group which allows for the development of an equation for predicting age based on the aorta circumference.
Conclusion: Defining the circumference of the aorta might be a suitable secondary method for determining age of unidentified corpses or in some specific situations.

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Suicide during detention time

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The purpose of this study is to identify the suicidal risk of the persons during detention

Methods: This study is based on the cases of suicide during detention, examined at Institute of Forensic Medicine Timisoara
Results and discussions: Detention has an adverse outcome for the detainees, aggravating pre-existent conditions at the detainees with previous mental problems with emergence of the suicidal risk.

The literature mention that the suicidal risk is higher in the detention environment compared to the on-detention environment. **The article 114 CP says:** When the detainee has a mental condition or is a drug addict, and represents a danger for the society, he/she shall be admitted in a medical institution until improving of the medical condition.
Case presentation:

1. VD, male, 35 year-old, condemned 2 years and 10 month for stealing, semi-opened detention. When admitted in detention no medical history is mentioned. Cause of death: hanging.
After death, the relatives mentioned two previous attempts of suicide. The suicide occurred at a person whose medical examination was within normal limits.
2. JF, male, 45 year-old, alien citizen, maxim security detention. He refused to feed himself. At hospital admission the diagnosis was: Reactive mental condition due to detention with simulation components. Cachexia due to feeding refusal. Cause of death: Septic shock, cachexia.
3. MP, male, 40 year-old, detained for homicide. Diagnosis: schizophrenia- paranoid type, mental retardation with severe behavioural problems. Cause of death: Septic shock due to a perforated wound of the colon due to ingestion of a foreign body. Medical history is remarkable for previous suicidal attempts. In this case, the death occurred in a psychiatric hospital due to lack of supervision.

Conclusions: Suicide prevention implies the evaluation of the suicidal risk in the beginning of the detention time and close supervision of the detainee(s).

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Extended suicide using a chain saw

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A 24-year old man and his 3½-year old son were found dead in their car parked in a forest. The man had a gasoline-powered chain saw on his lap. His neck was deeply opened with the cervical spine almost completely severed. On the left side all the large neck vessels were cut, on the right side the carotid artery and the inner jugular vein. The larynx was severed below the glottis. As vital reactions were found: general anaemia, acute lung emphysema, partial blood aspiration and subendocardial haemorrhages. Blood staining on his hands, arms and clothes indicated a suicidal handling of the chain saw.

The child sitting on the front passenger seat was found nearly decapitated. All structures of the anterior neck were severed. A 5 cm long part of the cervical spine was completely cut out. Deep lacerated wounds of the hands were interpreted as defence injuries. Anaemia and blood aspiration indicated the vital character of the injuries.

In both cases no signs of air embolism were found although the large veins of the neck had been opened. The toxicological analysis was negative for both individuals.

Criminal investigation revealed that the child was killed by another chain saw of minor dimension which had been placed in the car boot.

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Effect of pretreatment on the determination of hypoxanthine in vitreous humour and its impact on the measure of postmortem interval

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Background: Determination of postmortem interval is a critical issue in forensic science. Methodologies based in the biochemistry of the vitreous humour offers the best results for this determination, correlating the value of potassium (K) and hypoxanthine (Hx) with postmortem interval. However, vitreous humours have a viscous nature, and it is necessary that they be liquefied prior to analysis. The aim of this study was to compare different preanalytical treatments (centrifugation, sonication, enzymatic digestion and heat treatment), and their influence in the value of Hx by LC-MSMS determination.
Method: 30 vitreous humours of different sources were analyzed. All samples were centrifuged and the supernatant was divided into four aliquots of 200 μL. Each aliquot was submitted to one of the different studied pretreament methods. After that, 150 μL of these liquefied aliquots were extracted by solid-phase extraction by OASIS MAX cartridges (Waters, Mildford, USA). Chromatographic separation was performed using an Atlantis T3 (2.1x100mm, 3 μM) analytical column, working in gradient mode, with acetonitrile and ammonium acetate 10 mM (pH=4.5) as mobile phase. A Quattro Micro tandem mass spectrometer (Waters) was employed for the detection, working in electrospray positive mode (ESI +). Guanine, xanthine and uric acid were monitored also with this analytical method.
Results: Centrifugation was the easiest and fastest pretreament method. Moreover, centrifugation and sonication results showed only small differences between them. However, 15 minutes were necessary to perform the sonication method, while no additional time was required in the centrifugation process. With enzymatic digestion treatment, concentrations decreased slightly, but with heat treatment higher and lower values, depending on the vitreous humour, were found.
Conclusion: Variations in Hx measurement can alter the correct determination of postmortem interval, with important legal consequences. This study demonstrates how different types of pretreament methods affect the Hx determination. Centrifugation seems to be the method of choice because of its simplicity and good results.

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Carbon monoxide poisonings and deaths in house fires in Estonia in 2006 – 2011

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Background: House fires are frequent subject of everyday practice for a forensic pathologist due to cold and wet weather conditions in Estonia. It is frequent finding ethanol in addition to carboxyhemoglobin (COHb) in blood sample of dead body.
Method: In this study, we analysed fire fatalities in Estonia in the years 2006 – 2011.
Results: In 2006 168, in 2007 124, in 2008 101, in 2009 73, in 2010 96 and in 2011 92 deaths caused by carbon monoxide and exposure to uncontrolled fire in building or structure were registered. The mean rate of fatalities per 100,000 person-years decreased from 12.50 (in 2006) to 5.45 (in 2009) and then increased a little to 6.87 (in 2011). Totally during these years 537 carbon monoxide poisoning were registered. 412 (76.7 %) of them were male and 125 (23.3 %) female fatalities. Most of the deceased were in age between 41 and 70 years. In 378 (70.8 %) cases ethanol was found in blood samples (blood alcohol concentration – BAC, 0.5 mg/g or higher) and 43.1 % of them had BAC in high level (2.51 mg/g or higher).

The cause of death was not determined due to post-mortem thermal damage of the body in 70 cases, of them 56 (80.0 %) were male and 14 (20.0 %) female. Most of deceased were aged between 51 and 70 years. Slightly over half of the deceased 37 (52.9 %) were intoxicated with alcohol and in 30.0 % cases the alcohol level was high (BAC over 2.51 mg/g).

Another cause of death in fire incidents was burns, where the death occurred in most cases later in the hospital. In 2006 – 2011 there were 47 burn victims, 27 of them were male and 20 female. Comparing these cases with carbon monoxide poisonings, burn victims were mostly older persons (51 – 90 years). Alcohol was detected in blood in 18 (38.3 %) cases and 21.3 % of them had BAC in high level.
Conclusion: Since July the 1st 2009 in living rooms of private houses (apartments) automatic fire alarm system (smoke alarm) is obligatory, so the deaths due to carbon monoxide poisonings decreased to 54 in 2009. The extremely cold weather in December 2009 and January 2010 increased the number of deaths due to house fires. They were mostly caused by overheating of fireplaces, careless smoking or making fire in empty houses by homeless people.

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Multidisciplinary approach to an explosion victim: reconstructing the event

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Background: Approaching a case of explosion always involves different specialists in order to evaluate the complexity of its effects on people and environment aiming to the reconstruction of the event. Usually every specialist works separately from the others focusing on the analysis of its field. Our experience wants to bring forward an early cooperation, starting from the first approach to the victims.
Method: In particular, in a case of fireworks explosion, the crime scene examination, the evidence collection, the autopsy, the examination of clothes and the histological and toxicological exams were performed, when possible, at the presence of all the specialists in charge, while, in the other cases a rapid and exhaustive exchange of information was provided to all in order to create "the big picture" of the event. We approached the case combining the different methods of the single specialist: the forensic pathologist ability to read the lesions, the forensic chemical knowledge of explosives, the forensic histologist and toxicologist capabilities. For example the lesions observed during the autopsy and the little fragments found in and on the corpse resulted in an important hint during a later search of evidence on the crime scene and actually had a great role in reconstructing the dynamics of the explosion.
Results: Having a great amount of information about all the different elements involved in the event, resulted in an easier interpretation of the found lesions: in particular the subarachnoid hemorrhage the thoracic fractures and the cavitation of the right lung and of the liver. The fragments of the explosive device, not only justified the aspect of most of the external lesions, but also provided evidences to identify the fireworks that caused the event. Other interesting results came out from the histological and toxicological examination.
Conclusions: The positive results of our experience of cooperation with different specialists approaching the complexity of a case of

explosion and the great achievements in terms of new knowledge that came for each one of us, encourage us, not only, to apply this multidisciplinary approach to any other case of explosion further to come, but also to any case characterized by similar complexity. Therefore we feel confident bringing forward this approach to our colleagues.

PP-274

Combustion of an animal carcass for the study of human bodies involved in fires

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Background: In a case examined by the authors two victims with evidence of thermal damages have been found. A key issue in the investigation was the amount of accelerant and the time of combustion needed to produce the observed pattern of thermal damages. We carried out an exhaustive library search without finding any published result giving a contribution to the case. Therefore we decided to carry out some experiments using an animal carcass with the aim of highlighting the conditions necessary to produce the observed thermal damages.
Method: The experiments were carried out in a quarry using a pig carcass, petrol and an electrical remote ignition system. Six tests have been performed, using different fuel quantities on different regions of the carcass, in some tests the skin was covered with a cotton cloth. Authors used healthy appendages in some experiments and husked ones in the last part of the study, because the response of the human body is expected to be in between the two tested situation.
Results: The six tests carried out showed that the flame action and the time frame necessary to reproduce an injury, similar to our case, on an animal carcass is influenced by many variables including the different anatomical substrates (e.g. the body fat) and the different quantity of petrol. In five out of six tests the flames extinguished before forty minutes.

The time before the flames extinguish does not depend on the quantity of petrol but it depends mainly on the depth of the pool of flammable liquid (approximately 2–3 mm/min). The studies performed enabled us to describe the deepness of the damages that in the last test, conducted with ten liters of petrol, reached six centimeters similarly to the victim's lesions.

Only the third test, involving the abdominal area, showed a very long duration of flame due to the artificial exposition of the abdominal adipose tissue caused by the sagittal cut of the animal. The molten fat from adipose tissue contributed to the maintenance of the flame, lasting for over an hour. The damages in this test involved the internal part of the carcass.
Conclusion: In the test conducted with ten liters we have produced the lesions closer to the observed thermal damages on the victims of our case, and the flames extinguished after 28 minutes.

PP-275

Domestic Violence and suicide: about a case

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The family being considered the fundamental core of society, this structure will demand increased attention, especially as regards domestic violence. In fact, this is a social scourge that contributes to the destruturing and emotional instability of families and, consequently, of society.

The Angolan Diário da República, 1ª série, nº 133/2011 provides a need to prevent and punish acts of domestic violence against those who are helpless and physically, psychologically and emotionally disabled, demanding better care from those obligated to protect them.

The existence of a violent situation during intimacy, weak love bounds, constant change of partners, financial, social and economic, and housing problems and drug or alcohol abuse are considered risk factors.

The intention of this work is to try to contribute for a fast and correct diagnosis of this situation, thus allowing the protection, treatment and monitoring of victims. On the other hand, to make people aware and try to avoid extreme situations that culminate in the suicide of one of those involved.

In this study we present a suicide case of a 21-year-old woman, who committed suicide by oil burning, due to a prior domestic violence situation and home abandonment by her partner. Despite the treatment in hospital unit the burns evolved into a fatal septicaemia.

Domestic Violence, in which is also included the emotional disorder that may lead to the suicide of one of the parties, is a serious social, public health and forensic problem. Thus, it is urgent we try to create the conditions that allow the screening, forwarding and prevention of this situation in Luanda, where there is a high number of such situations.

PP-276

Death due to tuberculosis in homeless population in central Delhi – a retrospective study

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Background: Homeless and marginally housed people in developing countries have specific problems predisposing them to infectious diseases; have much greater risk of developing the active form of tuberculosis and much higher mortality and shorter life expectancy. India has the largest number (14 million) of TB sufferers in the world. There are over 67,000 homeless in Delhi, of whom 15 percent are women and 10 percent children. Delhi's total population is 16753235 according to 2011 census and Central Delhi is having 578,671 populations.
Material-method: This is a 5 year retrospective study based on the autopsy records of department of Forensic Medicine in Lady Hardinge Medical College, New Delhi, which is responsible for post-mortem examination of all medico-legal deaths in Central district of New Delhi. Almost all deaths among homeless people are regarded as suspicious and they were registered as medico-legal case and brought by police for autopsy.
Results: During this study we tried to find out the load of mortality due to tuberculosis in homeless population of central district of New Delhi (capital of India), where those unclaimed dead bodies were brought for postmortem examination, all unknown and unclaimed deaths were considered suspicion. During this 5 year period total 2773 autopsies were conducted in the morgue of LHMC, New Delhi, out of that, 749 cases (27.01 %) were homeless unclaimed people. 122 deaths (16.28 %) were due to pulmonary tuberculosis in homeless. The maximum 40 cases (32.78 %) were in age group of more than 50 years individuals, and minimum in age group of 11 – 20 years; 3 cases (2.45 %). Further, males were predominantly contributed with 116 cases (95.08 %) and remaining 6 cases (4.91 %) were females. Maximum deaths were occurred in month of July; 21 cases (17.21 %).
Conclusion: We need to do a much better job in preventing tuberculosis from spreading in this homeless vulnerable population, and in providing timely, effective primary and specialized clinical care for those who are affected by this vulnerable disease. We also need more affordable housing for homeless individuals.
Key words: Tuberculosis, death, homeless, post-mortem, natural disease

PP-277

The PMSI in marine environment: a multidisciplinary approach

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Background: After attending this presentation, attendees will understand that the estimation of time of death is one of the most important questions for forensic pathologists. This answer is rather complex when the body was found in water and decomposition processes are already present. The evaluation of PMSI can be an useful instrument for understanding time of death and/or time of disappearance, for personal identification of bodies found in an aquatic environment.

Our study of forensic literature of the last three centuries highlights that in the past years, forensic pathologists had estimated time of submergence using personal observations of the decomposing degree of a few cases. Maceration was the most studied decomposing process in contrast with putrefaction in water, for which there were almost total disagreement between pathologists about chronological aspects.

PMSI estimation is the result of the combined assessment of taphonomic factors, thanatological factors and entomological/biological factors (i.e. the studies of sessile invertebrate). Furthermore, the main variable that can influence aquatic decomposition is the temperature of the water. More recently some pathologists have suggested a standardized method for the evaluation of decomposing timing, using an entomological parameter (ADD). They used a scoring system for the objective evaluation of the decomposition and found a relationship between decomposition and ADD, in order to find the PMI or the PMSI: Megyesi studied the relationship between ADD and air decomposition and Heaton analysed the relationship between ADD and freshwater decomposition.

Method: Until now, no study has analysed the reliability of this method on decomposition in seawater. The aim of our research was to study the reliability of these principles in a marine environment, identify a statistically valid method for the estimation of PMSI starting from the decomposing stage and ADD of a body found in Southern Adriatic Sea, identify a combined method for the evaluation of PMSI, using thanatological, taphonomic and biological factors.

Results and conclusion: Our research confirms the studies that have found a relationship between ADD and decomposition for the estimation of PMSI. In particular, our study represents the first research on decomposition in seawater, characterized by an equation of regression with high statistical importance (R2 0,9023). So our thanatological results, the evaluation of taphonomic factors and the study of biological elements (study of life cycle of a species of Barnacles: Lepas anatifera) can give useful indications for estimation of time of death for the decomposing corpses discovered in Southern Adriatic Sea.

PP-278

CSI: special skills to access and inspect the site

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Background: The Crime Scene Investigation usually require multidisciplinary competences of qualified technical staff and law enforcement agencies, to analyze, collect and interpret all the elements near the cadaver. However the inaccessibility of the environment, may require special skills and equipment to access the site. So the forensic pathologist can find himself in evident difficulty to reach impervious, submerged or under-ground zones.

Method: The cases here presented highlight some criticalities which can be overcome only with the assistance of further techniques, competences and equipment, which lie often beyond the forensic doctor's proper.

Case n. 1- In a quarry, there found the corpse of a fallen down man; because of his location on a stone slope not accessible, it was required a very high escalator to reach the cadaver. In this case, the cooperation of the Firemen was crucial.

Case n.2- The collapse of a building in Foggia, which caused the death of 63 persons, required to perform a helicopter aerial survey to obtain an overview image of the site; this allowed to make a correct descriptive report of the area, useful to reconstruct the exact position of the victims under the rubble and to correlate their injuries to the modalities of the collapse.

Case n.3- A peasant attending to a grape press machine was the victim of a fatal accident. At the crime scene investigation, the cadaver was still imprisoned in the machine, so that it was necessary to ask for the support of specialized workers who carried out the emptying and the dismantlement of the device for the preliminary examinations on the corpse.

Case n.4- In an electrical cabinet, was found the cadaver of a man. The subject was trying steal electric material when, due to a dispersion of electric current, was electrocuted by an electrical discharge of thousands volts. It was impossible to interrupt the electric current supply, so the CSI could be performed in safety conditions only with the support of skilled technical staff who forbade the use of electronic devices which could cause voltaic arcs.

Results and conclusions: The illustrated cases prove the need, in Forensic Medical field, of the competence of technical figures apparently distant from those which usually work in the judicial field, yet whose contribution allows to operate with safety and improve the qualitative standard of the investigations.

PP-279

Foolish deadly games: please don't play with the police!

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Background: It is not uncommon in literature the description of decease cases due to "badly ended games" but there is scarce documentary evidence associating those deceases to the intervention of the law enforcement agencies, even though a 2008 study by NVDRS assessed that an impressive 26,4 % of the deceases due to "violence-related injuries" derived from police intervention for over-defense or killing by mistake.

Methods: The authors report the case of a tragic joke ended with the death of a young boy from a gunshot fired by a policeman.

On a summer night, a patrol car with two policemen was running along a country road where a lonely mugger had many times assaulted couples in their cars. The policemen stopped the car as the carriageway was blocked by stones; suddenly, a man with covered face and head, appeared from a dry stone wall, waving a gun with both hands. One of the policemen fired two shots, fatally wounding the boy.

At the gunshots, some friends of the victim reached the policemen, referring that the boy, emulating the aggression methodology of the mugger, was trying a joke to a couple of his friends he knew that were surely passing there.

Results: The autopsy showed the presence of a straight-trough wound channel, affecting all three lobes of the right lung with a resulting hemorrhagic pouring in the pleural cavity. The crime scene investigation allowed the retrieval of a bullet by the roadside.

At the examination of the police car was detected a deformed bullet in the front pillar of the driver-side car door, and a superficial defect of the rigid plastic border of same pillar.

Laboratory tests proved that the bullet found during the crime scene investigation had been shot by one of the two patrolling agents' service gun. The two cartridge cases found in the car were fired by the same gun.

The examination of the bullet showed also that its tip presented a deformation typical of the impact on a crystal; that was also related to the presence of residual silica powder adherent to the bullet's tip.

A three-dimensional reconstruction of the several stages of the event was made.

Conclusions: It is stressed the usefulness of the multidisciplinary contribution of the forensic-medical and ballistic competence in the reconstruction of events with firearm-related fatalities.

PP-280

Cable ties are rarely, but easily used for completion of self-strangulation by ligature

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Background: Self-strangulation by ligature is very uncommon. A cable tie is useful for binding or organizing several electronic cables and wire, but warning for accidental strangulation should be stressed in children. Recently several cases of intentional self-strangulation by cable tie have been reported in the forensic literatures, and newspapers in England and the United States.
Method: Authors have paid attention of self-strangulation by cable tie since 2008 in Korea.
Results: Five cases were collected through the personal communications with death investigators of the Province Police Agencies during 4 years. All cases were male. One case was suicide-homicide case (father-son). Only one case was autopsied. Two cases of suicidal attempts and one case of suicidal strangulation by cable tie were found in the newspapers through the internet searching. One case of suicidal strangulation was suicide-homicide (father-son & daughter).
Conclusion: Legal regulation for merchandizing cable ties, especially for the industrial cable ties, may be needed for preventing suicide. Reporting of self-strangulation by cable tie in the news media should be prohibited for preventing a suicide fad, especially in the country of high suicide rate such as Korea.

PP-281

Coronal Clefts in infants – differential diagnosis of child abuse related traumatic injuries of vertebral bodies

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Spinal injuries are uncommon and rarely seen in child abuse. Affected vertebral bodies typically present compression fractures due to forced hyperflexion and hypertension. Radiographic examinations of the vertebral column, especially in infants in the 1st year of life can also reveal coronal clefts – a radiolucent band running through a vertebral body, visualized in the lateral spinal radiograph. They are discussed as a physiological variation of the fetal vertebral ossification pattern. The number of 10 aborted fetuses was studied radiologically concerning the incidence and appearance of coronal clefts. Coronal clefts were mainly localized in the lumbar spine. No cervical or singular sacral clefts were detected. Histologically coronal clefts showed missing ossification at the centre of the vertebral body, remnants of the notochord could be excluded. Obviously coronal clefts result from a retarded ossification of vertebral bodies in fetal development. They are a physiological variant and have to be known as differential diagnosis to peadiatrics, radiologists and forensic pathologists investigating child abuse.

PP-282

Sudden Death of a Patient with Duchenne Musculer Dystrophy and Malpraxis Claim: a Case Report

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Duchenne-type muscular dystrophy (DMD) is an X-linked recessive inherited disease affecting mainly the skeletal and cardiac muscles. The most common cause of death is cardiac diysfunction as a manifestation of Duchenne muscular dystrophy. Our case was 16 years old boy diagnosed and followed up as DMD who is died at the hospital with aboundant hemorrhage from traceostomia canule started while taking lung X-ray graphy at his bed in the service room. The autopsy revealed that the atrophy of the neck muscles lead carotid artery lied parallel to trachea and neighbouring it. The hemorrhage was a result of decubital fistulisation between trakea and carotid artery, caused by the trakeostomia canula. For there was mal praxis claim about the medical staff, the case was evaluated by the 1st Specialisation Board, the Council of Forensic Medicine. The aim of submitting our case is that, DMD is not a frequent forensic autopsy subject, but gained forensic qualification because of the claim of malpractice leading to uncommon cause of death by the developping complications.

PP-283

Marks of the neck during a crime scene investigation: don't judge the book by its cover!

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Background: Whatever the time scale, the general order of putrefactive changes is similar, though the degree of advancement may vary between different areas of even the same corpse. Usually the first external naked-eye sign is discoloration of the lower abdominal wall, most often in the right iliac fossa where the bacteria-laden caecum lies fairly superficially.
Case: A young woman was found dead inside her apartment; the body was lying on the bed, half-naked, supine, lying with the head on the pillow and the neck in hyperextension; some greenish spots with irregular margins were documented in the subhyoid region and in the sternocleidomastoid region. The inspection of the apartment revealed a disordered setting. The set of data collected at the time of the crime scene investigation led the suspicion of a violent death. In detail, at the autopsy, the dissection of the neck pointed out the lack of tissues hemorrhagic infiltration and detected only a marked swelling of the jugular veins bilaterally, in conjunction with ipercromia of surrounding soft tissues. By opening the chest a copious effusion of blood within the pericardial cavity and blood was observed to ooze through two laceration of cardiac wall. A narrowing of the ascending aorta just below the isthmus compatibly with a diagnosis of aortic coarctation was observed. Death was attributed to a cardiac tamponade following rupture of the heart.
Conclusions: The greenish areas visible on the neck skin of the woman were interpreted as a putrefactive artifact, that was the result of post-mortem changes took place in a region of stagnant blood. As blood is an excellent medium for the growth of the orgamism, the sequence of green patches spread is probably governed by distribution of blood in the various parts of

the body at the particular time. In our case the greenish discolouration of the neck is an epiphenomenon of dilatation of the jugular veins that occurs in the context of the clinical syndrome that accompanies a cardiac tamponade. The interest of this case is to demonstrate how some marks observed during a crime scene investigation and misunderstood as external signs of manual strangulation, can be correctly interpreted as the epiphenomenon of a natural death during the autopsy.

PP-284

Art and Forensic Science: analysis of the Panthocrator of Saint Catherine (first painting of Jesus of Nazaret) showing sequels of the Passion and crucifixion

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he hypothesis about the surviving to the Crucifixion is not new. We analyzed the elements of the Shroud of Turin and found some evidence of vitality and some other signs that are not compatible with the death of the person wrapped by the cloth. Continuing with the studies we found that the first known painting of Jesus of Nazareth is the Panthocrator of Saint Catherine, painted between IV-VI Century.

It shows some signs compatibles with the injuries produced during the Passion and crucifixion. The Forensic analysis prove that the painting of Panthocrator of St. Catherine shows some injuries that correspond with sequels of the initial wounds of these moments (Passion and crucifixion) and can help to understand the circumstances and perceptions around the death of Jesus of Nazareth from a rational point of view.
This is not incompatible with another level of evaluation, as it can be the beliefs.

The meaning of art is never neutral, as prove new disciplines like Neuroesthetic, and show how the art acquires its real meaning in the social and cultural context. Under this perspective, the art can be a very valuable evidence for forensic science to approach the meaning and circumstances of the past.

The first known painting of Jesus of Nazareth is the Panthocrator of St. Catherine, found in Sinai (Egypt). The forensic value is very important because it represent a number of sequels that correspond to the injuries produced during the Passion and crucifixion of Jesus of Nazareth, most of them can be observed in the Shroud of Turin.

The main findings in the painting of the Panthocrator are:
- Scars in the face and neck due to the wounds produced by the whip, some of them are specific of the Flagrum taxilatum, a special whip used by the Romans in the first century.
- Deformity in the right zygomatic region due to a traumatism with possible bone fracture produced during the Sanhedrin Trial.
- Absence of nail's injuries in the palm of the hands. These injuries were in the wrist.
- Paralysis in the right hand with the typical position of the fingers that represent the injury of the median nerve, that usually was cut during the fixation process to the cross.

These findings in the painting reveal the existence of signs that can help to explain scientifically what happened around the crucifixion of Jesus of Nazareth.

PP-285

A histological comparison of the mastoid bones in strangulation and drowning

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A forensic pathologist is frequently confronted with victims of drowning and strangulation. In drowning, non-specific signs as oedema of the lungs and subsequently froth in the air passages, overinflation of the lungs and intrathoracic fluid are observed, while in strangulation petechial hemorrhages are helpful. Hemorrhage and congestion in the mastoid bones are also used as a tool in suggesting the cause of death in those victims. According to literature, dramatic vascular congestion is observed in strangulation victims whereas drowning victims showed more mastoid hemorrhage and less vascular congestion.

We compared the histology of mastoid bones in 54 victims, who were categorised on the suggested cause of death as follows: asphyxia-drowning related (AD, n=10), asphyxia-strangulation related (AS, n=32) and a control group (C, n=12). Mastoid bones were resected, formaline-fixed and decalcified, followed by embedding, sectioning and staining with hematoxylin and eosin. Examination was performed by a forensic pathologist and forensic anthropologist.

Extensive hemorraghie in the cellulae mastoidae was observed as follows: 47 % (AD), 16 % (AS) and 11 % (C), which was significant higher in AD versus AS (p=0,028) and AD versus AS +C (p=0,034). No significant difference in severity of vascular congestion was observed in AS versus AD+C (p=1) and AS versus AD (p=1).

Our study is the first case–control study in literature, where significant more hemorraghe in the cellulae mastoidae was observed in drowning victims compared with victims of strangulation and a control group. In contrast with cases in literature, no difference in vascular congestion between strangulation and drowning victims was observed.

PP-286

Neonaticide in the Netherlands: a comprehensive review of pathologic and psychological findings

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Neonaticide is defined as the killing of a newborn within 24 h of its birth.

82 neonates who underwent forensic autopsy in a 18 year period (1994–2011), were studied with respect to gestational age, scene information and autopsy findings. Psychological analysis of a selected group offenders was performed.

4 cases <24 weeks gestational age were excluded. The remaining cases were between 24 and 36 weeks (n=17) and >36 weeks (n=61). 50 % were girls, 40 % boys and in 10 % sex was not possible to determine. Minimal, moderate and severe decomposition was observed in 37 %, 19 % and 44 % respectively. In all cases with moderate and severe decomposition (63 %), the pathologist was hampered to interpret live birth and cause of death. Of the cases with minimal decomposition (n=29), 1 was a stillbirth. In the remaining 28 live birth cases, 16 showed no cause of death and in 12 cases a (possible) cause of death was found (strangulation, suffocation, sharp force-and blunt injury, a disease). Based on circumstances, manner of death was concluded to be proven unnatural (n=7), possible unnatural (n=70) and natural (n=1). 12 Defenders, all mothers, were analyzed psychologically. All but one of them demonstrated at least two psychiatric disorders, most had a low socio-economic background, half of them were single. All reflected different intelligence levels.

In the Netherlands yearly 4 to 5 forensic autopsies are performed on neonaticide cases. In most cases live birth and cause of death cannot be investigated due to decomposition, therefore manner of death is only suggested.

PP-287

Putrefaction and diabetic

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As well as diabetes putrefaction present and requires a certain number of difficulties in the pane thanatological expertise, we will present our work through this difficulty potentiated by the combination of two phenomena in the same expertise.

PP-288

Lightning strike, forensic approach

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Lightning is one of the natural phenomena of interest to researchers across borders, and this share any implications on the physical complex that applying both theoretical, and who never ceases to amaze the world of the researcher. This phenomenon even more interested doctors and forensic investigators through cases very problematic discovery of body blast, electrocuted by lightning often in a vacant lot and without witnesses, will review our work and try to solve their questions and it through autopsy cases.

PP-289

The fracture of the hyoid bone in medico-legal

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Will highlight our work and through this case we appraise the difficulty to cases of violent or suspicious deaths or forensic crossroads that is the neck, is the seat of stigmata of violence with fractures of the hyoid bone, and how through an analysis by the casuistry of a fair and accurate approach can be done.

PP-290

Medicolegal implications of post-traumatic nasal lesions

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Often when the findings of abuse, it happens that either in the presence of facial trauma of varying severity and who according to their assessment of the implications as well as forensic medical-reaching consequences, through case expertise we will reflect to turn the whole issue of post-traumatic nasal lesions.

PP-291

A case of sudden death due to an unknown gastric carcinoma invading the lungs and the heart

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We present a case of linitis plastic with massive direct invasion to the stomach, the duodenum and the pancreas and a diffuse metastasis to the heart, livers, spleen and multiple lung's tumors thrombosis in a 28 year-old man. He had no history of personal or familial malignancies. The main symptom was a mixed dysphagia expressed three months before his death. He was dead of respiratory failure two days after being hospitalized for exploration. Autopsy showed multiple peri-pulmonar and aortic nodes, multiple whitish masses in both lungs, the posterior wall of the left ventricle of the heart and the spleen (1 – 3 cm); A whitish indurated mass of 15 cm, invading the whole stomach wall starting from the cardia, invading the pancreas, the duodenum and the meso-peritoneum. Histology findings showed a typical aspect of gastric independent cell carcinoma with an aspect of lung carcinomatosis miliary and multiple pulmonary tumor thrombotic microangiopathy, a heart metastasis and multiple tumor aortic and mediastinal nodes.

PP-292

A rare case of death due to the spontaneous rupture of the urinary bladder

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Background: The rupture of the urinary bladder can be of either traumatic or pathologic causes. The spontaneous and idiopathic rupture of the urinary bladder is a rare occurrence, with an incidence of about 1:126.000. The acute intoxication with ethanol is a risk factor due to the fibrilar distension and the ascension of the urinary bladder dom above the protective retrosymphisar space. The ethanol intoxication and the subsequent alteration of the consciousness make difficult the diagnosis of the spontaneous rupture of the urinary bladder determining an increase of mortality up to 47 %.
Method: In this paper the authors present a case of death due to the spontaneous rupture of the urinary bladder.

According to the data provided by the Police, R.D., women, 67 years old, died a few hours after drinking a big quantity of alcohol. In the victim's medicale file there were no indication about any previous diseases and the police investigation found no indication about any recent trauma suffered by the victim. The autopsy was performed 24 post-mortem, and samples for toxicologic and microscopic examination were collected.
Results: No traumatic injuries were discoveded during the external examination of the corpse. The internal examination of the abdomen revealed about 1000 ml of bloody liquid mixed with blood clots in the peritoneal cavity. On the posterior wall of the intraperitoneal urinary bladder we discovered a transversal rupture of about 4 cm length and 3 cm width at maximum traction, with irregular and blood infiltrated margins. Inside the urinary bladder there were about 700 ml of blood clots. The toxicologic examination revealed a blood alcohol concentration of 2,05 gr%o. The macroscopic and microscopic examination revealed no signs of a pathological condition or traumatic injury of the urinarry bladder.
Conclusions: The possibility of a spontaneous, idiopathic rupture of the urinary bladder should be considered in patients with a history of unspecific abdominal pain, especially when a history of a recent alcohol intake is known. When no pathological lession of the urinary bladder (tumor, inflamation, infiltrative diseases etc.) are discovered, the traumatic cause should be considered; further if no traumatic injuries are discovered during the external and internal examination of the body and there is no history of a recent trauma against the victim, the rupture can be considered spontaneous and idiopathic.

PP-293

Will to die without bothering: special devices used by suicides

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Background: suicide is one of the most important public health issues in Italy. Suicide rates for this country average approximately 4,7 per 100.000 populations and the most common method of suicide is the use of firearm. This presentation will impact the forensic community illustrating how social and psychological aspects play a key role in people who commit suicide. We show two unusual cases of suicide in which victims paid attention to preserve the environment without blood spatter on the surrounding surfaces. This was an act of respect for their relatives: the will to die, derived from terminal diseases and psychological suffering, was accompanied by the desire of reducing the painful impact in loved ones.
Methods: one case is that of a 65-year-old man, an art professor at high school. The day he committed suicide he had dinner with his wife. Once she fell asleep, he reached a separate part of the house were he had planned to commit suicide. He covered a coach with clothes and plastic bags; he sat and fired himself with a.357 magnum revolver pointing the barrel at his right mastoid bone. After firing, all blood traces were absorbed by the covering material. No reason was found to justify the suicide and only later it was discovered that his boss had fired him because he walked naked in protest in school. There was no evidence of prior suicide attempts.

The second case was that of a 57-year-old man with a history of severe terminal form of gastric tumor. Once alone in the house, the man prepared the scenario on the balcony outside the house because he did not want to soil his apartment. He wrapped a blanket around the railing of the balcony, he laid on a plastic sheet and he shot in the chest using a.12 caliber shotgun. A suicide note was found on the scene.
Results: the external examination reveled in the first case one mastoid penetrating gunshot wound with gunpowder residue; the path of the pellet came to rest in the left parietal bone. In the second case, a wide entrance wound entered the chest and no exit wound was found.
Conclusion: these two cases of suicides are unusual because both victims desired to die without "bothering". Infact they used special devices in order to reduce the impact of the crime scene and to avoid further shock and pain in their relatives.

PP-294

Suicide by insulin overdose

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Background: In the literature many case reports about the occurrence of accidental insulin-induced hypoglycaemia can be found but deliberate overdose with insulin is rarely reported. We encountered a case of fatal hypoglycaemia caused by insulin overdose. A 53 year old man with insulin-dependent diabetes, was found dead in his room. Close to the body and in the kitchen there were two syringes of insulin aspart, a syringe of insulin detemir, a box of lorazepam and packets of other drugs. He had attempted suicide once in the previous months, so he was receiving a psychiatric treatment. A farewell message addressed to his wife was found on his phone cell.
Method: Autopsy, toxicological analysis and histological examination were performed.
Results: It was proved that the man died from acute cardio-respiratory failure leading to a state of hypoglycaemic coma. Autoptic and histological findings were indicative of a direct cerebral damage (interstitial oedema, neuronal cells swelling with pale and fringed cytoplasm, capillaries microthrombi) with pulmonary oedema (oedema, alveolar desquamation, congestion and thick alveolar septae). Injection marks were not observed. Toxicological analyses showed therapeutic dosages of benzodiazepines.
Conclusion: Circumstantial data, autoptic, histological and toxicological findings led us to establish it was a case of deliberate self-poisoning with insulin.

As a matter of fact brain depends on constant delivery of glucose and oxygen by the blood. In this case state of coma was caused by the hypoglycaemia induced by insulin assumption. Hypoglycaemic brain damage can be considered a cerebral excitotoxic neuropathology, where neurons are selectively killed by an extracellular overflow of excitatory amino-acids produced by the brain itself. Pulmonary oedema is a complication of insulin overdose too, and it's linked to the alveolar epithelium and pulmonary capillary endothelium dependence on glucose metabolism. Benzodiazepines can have an indirect influence on the mechanism of death. They occasionally reinforce the hypoglycaemia caused by insulin.

The importance of this case concerns the need of paying attention to circumstantial information and anamnestic data, that have to be integrated with autoptic and histological findings in order to make the right post-mortem diagnosis, especially when there is lack of external signs (fine injection needles can produce marks that are extremely hard to identify). In our case histological findings played a very important role too, as we could recognize a typical hypoglycaemic neuronal damage (neuronal cells swelling with pale and fringed cytoplasm). Finally it's important to exclude other competitive fatal mechanism (diagnosis "per exclusionem").

PP-295

Demostrative suicides by fire in economic crisis time. Report of two cases

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Background: Suicides rates rose sharply in Europe as the financial crisis drove up unemployment and squeezed incomes.

In Italy the last study performed by EU.R.E.S ("Suicide in Italy in Crisis time") reveals that in 2009, when the economic crisis was just starting up, there was an increase of suicides of 5.6 % above the 2008.

The suicides in unemployed rose at +37.3 %, and more than 76 % had recently lost the job. Only the 22 % were unemployed still looking for first occupation.

Nowadays with the spread out of the financial crisis, in Italy have been described quite a suicide a day for monetary problem.
Methods: The Authors describe two cases of demonstrative suicide by fire
Results: In the first case the owner of a bakery came out crying from the State Tax Office, where he could not succeed in delaying the amount of tax to pay. His financial debts would have forced him to close the family work activity and fire his employees.

So he bought a tank, and filled it with gasoline. He went into the open country and under an olive oil tree, standing up, scattered himself with the gasoline and set fire

He was found decomposed, in the country side, two days later. He was charred with extended third degree burns on the 80 % of the body surface.

The death occurred slowly after a long suffering time as shown by the vitality of skin injuries and by the amount of carboxyhemoglobin (52 % in open space).

The second case concerned an unemployee of 55 YO. He was dismissed several years earlier, and from that time he was not able to find a new job. After one last negative attempt to obtain a job from the Local Municipality, he bought gasoline, put himself in a large rubbish plastic bag, and in the main square of the town, in the rush hours, he set himself to fire

He died 12 days later in the local Hospital for the consequences of the burns extended on 80 % of the body surface.

Conclusions: The suicide by fire is uncommon, extremely painful, and not rapidly lethal. It is usually used for demonstrative purposes: to contest the Central Government against the new poverty induced by the increase of taxes, the highly new unemployed and the lack of job.

PP-296

Epidemiology of suicide deaths in the North of Portugal (2007–2011)

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Background: Suicide continues to be a common and one of the most preventable causes of death around the world. The importance of studies conducted on Jurisdictions that serve a specific geographical area is well known, as they are essential on identifying the local tendencies that are occurring amongst suicide victims. The objective of this study is to analyze the epidemiological trends of completed suicide in the North Region of Portugal.

Method: Data from autopsy records and social inquiry of suicide cases (ICD-10 codes X60 to X84) between 2007 and 2011 at the North services of the National Institute of Legal Medicine of Portugal were obtained and analyzed by age, gender, method, time of year and other background factors.

Results: A total of 1415 cases of suicide were autopsied in the North of Portugal. The mean interannual incidence rate of suicide in the region was 7.8 per 100.000 inhabitants, with a male:female ratio of 3:1. The age range was from 12 to 92 in males (mean=52.60, mode=45) and 14 to 92 in females (mean=53.56, mode=57). The most common method amongst male victims was hanging (n=519; 47.1 %), followed by firearm discharge (n=171; 15.5 %); in females, the most common method was also hanging (n=90; 25.1 %), followed by intoxication by medicines (n=79; 22.0 %).

Conclusion: Comparatively to other European countries, the results of the study suggest a higher rate of consummated suicide, even though the methods used are overlapping. Some population groups should be targeted for suicide preventive measures, being middle-aged men the most prominent. Determining local prevention suicide programs is important for anticipating suicide acts and suicide behavior.

PP-297

Toxic Epidermal Necrolysis, And Physician Responsibility: 2 Case Reports

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Patients with toxic epidermal necrolysis (TEN), 80-in 95 % of patients with the disease, especially hydantoins drugs", while it is accepted that the main reason, in a few cases of infection, vaccination, toxins caused by radiation therapy and reported. Incidence of 1 to 1.2 cases per million and 70 % 's reported that mortality can reach.

Council of Forensic Medicine Adana Group Administration 2 patients who underwent autopsy diagnosed with toxic epidermal necrolysis, drug treatment, presented in terms of regulating the responsibilities of the physicians planned.

1. Case: 58-year-old male. Taken because of the treatment of seizures after a head injury and frontal contusion, the rash begins until 20 days after treatment, the addition of the second, an antiepileptic, referenced to the hospital, received intensive care, where he died 15 days later, unless otherwise indicated. At autopsy, including intra-oral mucosa, bullae and desquamated erythematous areas of the body was determined, histopathological findings were consistent with TEN.

2. Case: 10-year-old girl. Diagnosis of epilepsy is under medical treatment, including oral cavity, then started an additional antiepileptic drug rash and blisters all over the body are common, are invested with the diagnosis of TEN, where she died three weeks later, unless otherwise indicated.

Hospital information, after the autopsy findings and histopathological evaluation, the cause of death was diagnosed as TEN. Addition to the child's parents suffer from anti-epileptic medication the doctor began.

Physicians accepted professional practices" drug use" as a complication never been in charge of situations.

However, whether or not responsibility for the correct indication, appropriate dosage, side effects of drugs and information on actions, clinical follow-up and decided to investigate compliance with the requirements of rules and controls are given in terms of medical science.

PP-298

Postpartum sudden death from plexogenic pulmonary arteriopathy: two cases

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Backgraund: Pulmonary hypertension can ocur in association with a variety of medical conditions. Severe pulmonary hypertension, a condition associated with marked elevation of pulmonary artery pressures, heart failure, and high mortality, may present with the formation of plexiform lesions in medium sized pulmonary arteries. Pulmonary arterial hypertension carries a high maternal motality rate in peripartum period. Because of the limited availability of lung tissue samples from pregnant women with pulmonary arteriel hypertension, the frenquency and hemodynamic effects of plexogenic lesions are largely unknown.

Case 1: A 27 year old multigravida with mild anemia, diarrhea and weakness, has had a male fetus vaginally without complications. On postpartum day 10, the mother was brought to hospital death. Postmortem histopathological examination showed plexogenic pulmonary arteriopathy.

Case 2: A 28 year old primigravida without a known disease, has had an abort and discharged from the hospital. On day 8, the mother was brought to hospital death. During the resuscitation an abundant lung hemorrhage was occured. Postmortem histopathological examination showed plexogenic pulmonary arteriopathy.

Conclusion: Pulmonary hypertension carries a significant risk to mother and child during pregnancy. Plexogenic pulmonary arteriopathy is a rare lesion and associated with poor prognosis. Therefore, during the autopsy and postmortem histopathological examination of peripartum maternal sudden death cases, plexogenic pulmonary arteriopathy should be considered by pathologists.

PP-299

Death due to Bleeding of Primary Aortoesophageal Fistula Secondary to Thoracic Aneurysm: A Case Report

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Aortic aneurysms in cases of sudden death is taking an important place, is a fact that known to affect homeostasis of fistulas. In this study, we presented the autopsy findings of a 74 years old woman is found dead at home. In the autopsy, 7x6x3 cm mural thrombi on the thoracic aorta, 1000 cc coagulated blood in the stomach and fistula between the aortic aneurysm and esophagus was found. Histopathological examination confirmed the fistula. The cases of bleeding into the stomach from aortoesophageal fistula is very rare in the relevant literature review. Also we couldn't find any case report about this issue in Turkish forensic medical publication. The case have been presented with crime scene investigation, autopsy and microscopic examination findings and discussed together with the mechanisms death, have attempted to explain the elements that need attention at autopsy.

PP-300

"Airway Obstruction: Two Cases Report"

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Death from mechanical asphyxia due to obstruction of the internal airways is relatively common in children, elderly and drunk people. Normally, the manner of death is accidental and the foreign body nature is food material or even teeth. The location of the obstruction depends on the size of the foreign body: large fragments in the glottis and small ones at the bifurcation of the trachea or main bronchi.

Sometimes the cause of death is guided by circumstantial information, because the victim has a cough or breathing problems during the meal. However, there are cases where the cause of death can be misunderstood with natural deaths of cardiac origin, which are known as coffee coronary syndrome.

The authors present two cases of mechanical asphyxia due to obstruction of the internal airways with food material. In one case, a 22-months-old female choked while she was eating in front of her mother. The death did not occur immediately, but 3 days later with hypoxic-ischemic encephalopathy. In the other case, a 49-years-old female died suddenly without witnesses and a natural cause of death was suspected.

In the forensic autopsies the classic signs of asphyxia can be observed, but all these signs are nonspecific and do not lead to diagnosis. The finding of a foreign body together with the circumstantial information provide the diagnosis of the cause of death.

PP-301

"A Silent Death Sentence. Traumatic Vertebral Artery Dissection: a Case Report"

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Although some traumatic injuries are not noticeable at the time they are produced and cause little or no symptoms, they should not be considered harmless. In fact, some of them can lead to a mortal outcome, if not perceived and treated promptly. This is the case of vertebral artery dissection.

Vertebral artery dissection can occur after relatively minor head and neck injuries and preci-pitating events, mainly associated with minor indirect mechanisms causing hyperextension or sud-den rotation of the neck such as motor vehicle accidents. It occurs in association with cervical spine fractures in almost 70 % of the cases. Cerebellum and brainstem infarcts are typical findings that arouse neurological symptoms. These symptoms can be delayed in time, with long interval between vessel dissection and ischemia, causing the talk-and-die syndrome.

The author present a case of a 68-year-old man, who suffered a motorcycle accident, from which seemed to result only rib fractures and some abrasions. After 17 days he was hospitalized conscious, with dysarthria, drowsiness, emesis and lack of strength in the lower limbs. Over the next 12 days his condition progressed to coma and brain death. After a post mortem exam, with histopathological exam, a bilateral dissection of the vertebral vessels was found.

It is noteworthy that a detailed exam of cervical region and the brain is important, specially when there is a delay between the accident and the death, even with previous minor trauma of these regions.

PP-302

Medico-legal evaluation of deaths due to decapitation

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Throughout history, decapitation has been used for execution fort the most diverse motives all over the world. Complete decapitation without any further mutilation of the victim in homicides is relatively rare. Decapitated bodies are predominantly associated with decapitation by wheels of trains or with postmortem dismemberment following homicide. Some methods of suicide may also result in decapitation, either as an intended outcome or as a result of some unforeseen complication of the method used.

Decapitation of bodies is a rare event in the civilian setting and is reported to account for approximately 0,1 % of medico-legal autopsies. Suicidal decapitation is a very rare method of self-destruction. In suicidal decapitation, the favored method is the one involving trains. Other encountered methods are decapitation in suicidal hanging, and vehicle-assisted ligature suicide. Though being encountered rarely, decapitation by guillotine was also reported.

In this retrospective study, in order to depict characteristic features of deaths with decapitation, we presented the findings of fatalities with decapitation over a 10-year period in a medico-legal autopsy series in Istanbul, Turkey. A total of 36270 forensic autopsies were performed over the period of the study and in 19 cases, the bodies were found to be decapitated (0.05 %).

The age range of decapitated bodies was 18 to 71 years (average, 39,1 years), with a male to female ratio of 13/6. There was only one case of suicide and the way used for suicide was a mechanism like guillotine. In this case, a guillotine-like device designed by male victim had been used for deliberately decapitating the body. The age of the suicide case was 41 years. There was no female suicide case. There were 13 deaths of accidental origin, 6 vehicle crashes and 7 train-pedestrian accidents. The age range of individuals killed in accidents was 26 to 68 years (average, 36.8 years), with a male to female ratio of 11/2. During the study period, the number of the homicide cases with decapitation was 5. The age range of homicide cases was 18 to 71 years (average, 45.2 years), with a male to female ratio of ¼. There were multiple traumas in other body parts of the bodies of homicide cases together with decapitation. In majority of homicide cases, multiple stab wounds were detected. Decapitation level of vertebrae was at the level of 3–4 cervical vertebrae in 9 cases and in different levels at cervical region in other cases.

PP-303

Postmortem Bite Injuries by Domestic Cat: An Autopsy Case

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A 71-year-old woman was found dead in her house. The body was in moderate degree of decomposition and referred to ATK for medico-legal autopsy. External examination of the body revealed the breakdown of the facial soft tissues. Almost bony parts of facial region were exposed. Apart from the facial region there were multiple bites showing binary canine marks at elbow, hand regions. There was no sign of bleeding around these lesions. Presence of several domestic cats was noted by crime scene officers and prosecutor. Given the typical morphology of the skin lesions and the observation of cats at the death scene, it was concluded that the injuries were inflicted by at least one domestic cat. The case shows that domestic cats also feed on human corpse.

PP-304

Determined suicide by using different methods consecutively: case report

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Suicide is a significant health problem in the world, the rates and the methods used differ from country to country. The preferred method of suicide is hanging in Turkey, but it also shows difference between the provinces and even between the genders.
In some rare cases, the method used is very destructive and unusual in nature such as using a guillotine-like device. Unusual ways of committing suicide such as using different methods together or consecutively are reported in the forensic literature

A 49 years-old man was found dead in the kitchen of his home, in blanket lying near to the cooker. The hose which supplies natural gas was near to the nose of the decedent. External examination of the decedent showed the presence of cut wounds at wrist region. There was a suicide note explaining the multiple methods used by the victim such as inhalation of natural gas, cutting of the wrist, suffocation attempt by plastic bag. The suicide note was describing all tragic efforts and the desperation of the decedent resulting from gambling passion. The body was referred to Council of Forensic Medicine for medico-legal autopsy. Upon evaluation of macroscopic and toxicological findings obtained via autopsy, the cause of death was certified as asphyxia resulting from natural gas inhalation

PP-305

Accidental hanging of a child with cord of the pacifier: an autopsy case

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Choking, suffocation and strangulation are important causes of unintentional injury and death in young children. Choking on food and toys, suffocation from plastic bags and strangulation from strings on children's items are common causes of mechanical airway obstruction. Hanging is a form of ligature strangulation in which the force applied to the neck is derived from the gravitational drag of the weight of the body or part of the body. Hanging is almost always suicidal and though very rarely being accidental.

In some countries mechanical airway obstruction from choking, suffocation and strangulation is the leading cause of unintentional injury that results in death of children less than 1 year. Many of these deaths are preventable. Children's clothing and household furniture have the potential to cause strangulation.

We report a 1,5 years old boy who was dead on admission to hospital. External examination of the boy showed classical ligature mark seen in hanging. Autopsy revealed the bleeding in the muscles beneath the ligature mark. The investigation made it clear that the boy had been struggled by the cord of pacifier after being hooked by the washing machine's latch.

Accidental strangulation is a preventable problem with limited scientific understanding in children. Health care providers can play an important role in the dissemination of prevention information to caregivers and manufacturers in order to reduce the incidence of these injuries in young children.

PP-306

An unusual fatal injury due to tyre blast: an autopsy case

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An 18-years old boy was fatally injured by burst tyre air pressure while inflating a truck tyre. The tyre had shot by air pressure generated to the chest and abdominal region of the boy, and the boy had also blown the boy. He died upon admission to emergency. A medico-legal autopsy was performed which showed extensive injuries in the chest and abdominal cavity. Multiple rib fractures, lacerations of lungs, liver, and thoracic aorta were the principal injuries.
Tyre-blast injuries are rare incidents. Inflated large tyres contain a tremendous amount of potential energy and so tyre blast injuries during inflation/repair have a high morbidity and mortality.

PP-307

Death due to Improper use of Rodenticide: A Case Report

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Pesticides are toxic agents used widely in insect, pest and rodent control in agriculture. Rodenticides are used for agricultural and urban rodent control. Deaths due to these toxic agents are generally secondary to accidental exposure and less often intentional use for suicidal purpose. However, therapeutic use is extremely rare.

Here we present a case of 53 years old male who used a rodenticide and an antibiotic for self-treatment of his intestinal parasites. He was immediately sicken and applied to hospital. Gastric lavage and active coal were performed; later he admitted to the intensive care unit because of worsening general condition. He died at 36th hour of follow-up.
Areas of petechial hemorrhage on the surface of the lungs and heart were seen; and, 600 cc of transudative fluid was detected in the abdominal cavity, at autopsy.

Widespread use and easy availability of agents as Rodenticides might cause serious incident. In this context, public awareness about use and storage of such agents will help to tackle such cases.

PP-308 (Omitted)

PP-309

A Planned Complex Suicide Case Committed by Using Four Suicide Methods

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Background: Complex suicide is using of more than one suicide method to induce death and may be planned or unplanned. In planned complex suicides, combination of two or more methods can be planned by the victim to prevent failure of the first method. In unplanned complex suicides, the victim employs the second or more methods of suicide after the first method chosen failed or proved to be painful. In the literature, the use of four or more methods in a case is very rare. In the article, a planned complex suicide case committed by using four suicide methods was presented and the properties of the case was discussed according to the literature data.
Case: Thirty-two years old male found dead with a telephone and a bas station stick in a place which its door was locked and surrounded with wire wall. Most part of the dead body in boxer position, carbonisation degree burned, a metal chain on his neck and two lacerations seen. 1 bread knife, 1 lighter, 1 plastic bottle filled with gasoline, 1 poetry book named 'suicide meets love' found beside the dead body, in the book some verses underlined follow as: 'is it nice to make love with a woman or with fire ?…Tired of cutting my wrists with razor blade, tying a rope around my neck, rolling over from a balcony to the emptiness, leaning the knife on my throat, drilling a hole in my forehead… Fracture caused by falling from a high place established on the left femur during autopsy. There was an eye-witness who saw the victim 20 days ago digging a grave for himself and wanted to be burried to that grave; it was understood that the victim had psychological problems and talked about suicide all the time.
Conclusion: In order to determine the correct origin of complex suicide cases, examination of the crime scene and autopsy is crucial, any little detail and proof should not be escaped from the attention.

PP-310

Estimation of postmortem interval using cardiac Troponin I

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Background: The importance of determining the time since death is crucial to criminal, civil and forensic cases. Numerous methods have been proposed in the last 60 years for the determination of the time since death by chemical means. None of these methods has gained any practical value. An assessment of levels of cardiac Troponin I (cTnI) in cadevric fluids, to estimate the postmortem interval (PMI) was carried out. cTnI is a basic regulatory protein found as part of a ternary complex responsible for calcium dependent muscle contraction.
Aim: To analyse the diagnostic efficacy of post-mortem dosage of cardiac troponine I in cadaver fluids in estimating PMI.
Material-methods: Our study is prospective interesting 72 corps autopsied at the Department of Forensic Medicine of the University Hospital Fattouma Bourguiba of Monastir-Tunisia. Were excluded from the study, resuscitated cases and those examined more than 48 hours after death.

Levels of cTnI were measured in pericardial fluid, cardiac blood and peripheral blood. Statically significant correlations between different variables levels of cTnI and PMI were studied. Correlation coefficients were calculated. SPSS (version 12.0) was used for statistical analysis. Results were considered to be statistically significant when $p<0.05$
Main results: Cardiac troponin I levels in pericardial fluid, are correlated significantly ($r=0.316$) with PMI with a p value at 0.033 However it was not significant correlation between levels of cTnI in cardiac and peripheral blood with PMI (p value respectively at 0.389 and 0.461). The table below shows the variation of levels of cTnI in cadaveric fluids with PMI
Conclusion: The significant correlation between levels cTnI in pericardial fluid and PMI can be due to the fact that the pericardial fluid represents a different matrix than blood and is a filtrate produced via the serous layer of the pericardium. The fluid bathes the myocardium, enzymes and proteins may be released directly into the pericardial fluid from the cardiac muscle.

Large scale studies including more cases are needed to determine the correlation between PMI and levels of cTnI.

PP-311

Café coronary syndrome: An autopsy case report

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Food asphyxiation, known as "café coronary syndrome", is defined as a sudden and unexpected death occurring during a meal due to accidental external compression of the airway by food. This syndrome is an uncommon cause of sudden death.
Aim: To report an autopsy case of café coronary syndrome and to discuss the mechanism of death.
Case: A 38 year-old woman, without previous medical history died suddenly. A forensic autopsy was performed. External examination of the body showed a marked facial cyanosis without any violence evidence. Autopsy showed non specific asphyxia signs such as multivisceral congestion. Lungs were turgescent and oedematous with a congestion of tracheal mucosa. A compact bolus of food ("Bsissa", a semisolid preparation consisting in cereals) was found in both infra and supra-glottic areas, obstructing the esophagus.

Toxicological screening was negative. Death was related to a mechanical asphyxia.
Conclusion: The type of food is a significant factor in café coronary syndrome. Poorly masticated foods are often involved. Alternatively, semisolid or adherent foods may also be a problem.

In our case, death may result from airway obstruction due to external compression of the trachea by food impacted in the esophagus. However the rapidity with which fatal episodes may raise the possibility of reflex vagal inhibition due to stimulation of the superior laryngeal nerve causing cardiac arrest. It may be that combinations of mechanisms contribute to the lethal outcome.

PP-312

Post-traumatic epilepsy: A forensic approach

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Introduction: Post traumatic epilepsy (PTE) is a recurrent seizure disorder secondary to brain injury following head trauma. The mechanism by which trauma to the brain tissue leads to recurrent

seizures is unknown. The medico legal problems associated with PTE are frequently related to the identification of head trauma as a cause of epileptic seizures and to the complexity of forensic examinations.
Aim: Study the imputability between traumatic brain injury (TBI) and epilepsy, through the review of 12 cases of post traumatic epilepsy.
Materials-methods: A retrospective study was performed in the Forensic Medicine Department of Fattouma Bourguiba Hospital in Monastir (Tunisia) during the period 1991 to 2009 including the review of forensic examinations. 5750 patients suffering from head trauma injury were selected from a total of 13990 clinical forensic examination cases.
Collection of data was carried out with an emphasis on initial medical certificates and reports.
Results: During the period of study, the diagnosis of PTE was considered in 12 patients but accepted in only 10 patients.

The mean age of the study population was 23,8 years [6 years - 37 years]. All patients were males. For the whole studied population, mean free interval (age at onset of PTE - age at onset of TBI) was 7 months. All patients had no previous medical history. Eight patients (80 %) had severe TBIs.
Conclusion: Causality assessment is relatively difficult. It is based on several criteria such as the severity of trauma, time at onset, and previous health condition. In our study, eight patients had severe TBIs and there was no previous history of epilepsy.

Post-traumatic imputability of epilepsy was refused in 2 cases despite the occurrence of disorders after head trauma.

PP-313

Iatrogenic injuries induced by external cardiac compression discovered during forensic autopsy

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Introduction: External cardiac compression (ECC) is a technique for cardio-pulmonary resuscitation consisting on applying manual rhythmic pressures to the thorax. It may induce iatrogenic injuries. Therefore, pathologists must be able to distinguish between ECC related injuries and those caused by other factors, such as assaults or accidental violence.
Aim of the study: The aim is to analyze external cardiac compression induced injuries and to discuss their medico-legal implications.
Material-methods: Our study is retrospective, including 179 autopsies performed between 1990 and 2011, in the Department of Forensic Medicine of the University Hospital Fattouma Bourguiba of Monastir (Tunisia). Cases with ECC were included. The age range was 40 days-95 years (mean-age: 52 years). Sex ratio was 4.
Results: Iatrogenic injuries generated by ECC were found in 80 cases (44.6 %). Iatrogenic injuries were mainly sternal and/or ribs fractures in 60 cases (33.5 %) and thoracic ecchymosis in 18 cases (10 %). Ribs fractures were present only on the anterior surface of the chest. Dorsal spine fracture was found in the region of the sixth, seventh, and eighth thoracic vertebrae, in one case. The thoracic vertebrae were noted to be extremely osteoporotic. A liver rupture was noticed in one case. No cardiac macroscopic injuries were found during autopsy.
Conclusion: Fractures of the ribs and sternum are frequently seen during forensic autopsies of decedents who received chest compression during cardio-pulmonary resuscitation. Sometimes, iatrogenic injuries can be misinterpreted. If in doubt as to what an unusual mark is, the pathologist should request the attendance of the clinician to explain it.

PP-314

Meningeal melanocytoma as a cause of sudden death: a case report

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Introduction: Meningeal melanocytoma is a rare benign pigmented tumor. It develops from melanocytes normally present in the meninges of the posterior fossa and medulla. It is an extra-axial tumor that manifests due to compression of adjacent structures. Although classified as a benign tumor, it can cause sudden death by several mechanisms.
Aim of the study: The aim of this paper is to report a rare case of meningeal melanocytoma and to discuss the mechanism of death.
Case presentation: A 21 year-old man with a prior history of recurrent lipothymia, was admitted into the emergency room because of generalized seizures. Death occurred despite resuscitation. A medico-legal autopsy was performed. External examination of the body showed non-specific asphyxia signs without any violence evidence. Necropsy noticed a brain oedema with a dark colour of the meninges especially in the frontal part. Histological examination concluded to diffuse meningeal melanocytoma with cerebral oedema.
Conclusion: Meningeal melanocytoma is a benign tumor derived from melanocytes.It may occur with several symptoms in young age. This case report exemplified generalized seizures as a complication of this tumor which led to sudden death.

PP-315

Sudden Death Syndrome Caused by Anaphylaxis Related to Hydatid Cyst Rupture: A Case Report

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Introduction: Sudden/unexpected death is the situation when a person dies within 1 to 24 hours without knowing the existing of the disease. The most frequent reason of these kind of death is cardiovascular and it is informed that the reasons of sudden death are related with almost all organs and system. Although the number of sudden death cases related to hydatid cyst rupture is high in analysed literature, the cases like those in legal medical publications is not much and the case submitted for determining the cause of sudden/unexpected/suspicious death, thought to be efficacious for the forensic medicine science.
Case: 16 year old boy, fell down and after he jumped over a hindrance and when he got up after a very short time, he lost his consciousness and fell down again and suffered death suddenly. During the forensic autopsy, it was seen that one of many hydatid cysts were ruptured to vena portae and germanium mebrane in vena portea lumen protruded partially. As a consequence of autopsy; by taking the anamnesis taken from a relative, symptoms of examinations, toxicological analysis, histopathological evaluations into consideration and there were not any symptoms detected caused death, it was well understood that the cause of death is anaphylaxis related to vein lumen of hydatid cyst rupture.
Conclusion: Forensic autopsy is required in order to determine the cause of sudden/unexpected/suspicious death and it is important to emphasise the cause of sudden/unexpected/suspicious death may be parasitologic diseases.

PP-316

Congenital diaphragmatic hernia in the adult associated to intestinal malrotation and Down's syndrome, as a necroscopic finding

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Background: Bochdalek's Hernia consists of a post-lateral congenital fault of the diaphragm, frequently the left one, which results in the rise of the abdominal viscera up into the thoracic cavity. It can be associated with other congenital malformations. It is an unusual pathology in the paediatric age and an exceptional one in the adult population.
Method: On the one hand, the assessment of a case report happened in Barcelona and was subjected to judicial investigation and medicolegal autopsy at the Department of Forensic Pathology (SPF) of the Catalan Institute of Legal Medicine (IMLC). On the other hand, the carrying out of a retrospective prevalence study of natural judicial mortality caused by digestive pathology during the period from January 2010 till February 2012, in both the south of Barcelona and the city centre. Prevalence of Congenital Diaphragmatic Hernia was determined in that chronological period. The analysis of the databases of the Department of Forensic Pathology (SPF) was carried out using SPSS 17.0.
Results: We present the case of a 49 years old male with Down's syndrome, with no clinical follow-up until one month before exitus, when he presents abdominal pain, vomiting in repetition and cephalic instability, clinical picture oriented towards gastrointestinal infection. The autopsy demonstrates a left post-lateral diaphragmatic hernia with penetration and rise of large intestine and mesentery proper, displacing the heart to the right thus collapsing left lung. It is associated with intestinal malrotation, volvulus produced by rotation of intestinal ansa with fibrous adhesion provoking a small intestine infarct, this being the immediate cause of exitus.

Encephalic and hepatic findings compatible with whether malformations or anatomic variants derived from chrosomopathy were also detected. Toxicological studies rendered negative results and histology confirmed diagnoses.

1793 out of the 3141 autopsies performed in the 26 months of the assessment were natural deaths, 66 caused by digestive pathology, while HCDA only accounted for a 0.1 % (n=2) of the total natural deaths and a 3.0 % of the total deaths caused by digestive pathology (from January 2010 till February 2012).
Conclusion: Digestive Pathology as a cause of death in judicial autopsies performed in Barcelona is unusual and Congenital Diaphragmatic Hernia is a cause with low prevalence in the adult.

Both our casuistics and the existing bibliography show the probability of the association between intestinal malrotation and Down's syndrome with HDCA.

Bochdalek's Hernia favours the apparition of mortal mesenteric infarct when there is intestinal malrotation.

PP-317

The Research of Presence of P-selectin as Vitality Sign in Hanging Ligature

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In our study, it is aimed to evaluate P-selectin, which is a cell adhesion molecule and recently studied on determination of wound age, as vitality sign in hanging ligature.

In our study; skin samples taken from the cases autopsied by the Morgue Departments of the Bursa branch of the Turkish Council of Forensic Medicine were investigated immunohistochemically in terms of the percentage and the positivity stained with P-selectin.
The study group is formed with the skin samples of ligature and around of 25 hanging cases; as well as the first control group is formed with the skin samples of distant neck region of ligature of the same cases. The second control group is formed with the skin samples of the neck area of 24 deaths different from hanging.

40 % of the cases in the study group +2; 60 % of the cases in the first control group +3; 91.6 % of the cases in the second control group+2 and +3 level were stained. 16 (64 %) cases in the study group the percentage of staining were observed between 40-60 %. 23 (92 %) cases in the first control group the percentage of staining were observed between 40-80 %. 22 (91.6 %) cases in the second control group the percentage of staining were observed between 30-60 %. In the first control group positivity of staining ($p=0.018$) and percentage of staining ($p=0.017$) were higher than the study group and the percentage of staining ($p=0.021$) were higher than the second control group to form a statistically significant difference.

In the cases of hangings; it is not found any statistically significant difference in the positivity of stain and the percentage of stain according to the type of hanging (full/ half, typical/atypical) or the presence of ecchymosis or fracture ($p>0.05$).

In conclusion; in our study there is no positive correlation between P-selectin and vitality in ligature of hanging; moreover, it may be beneficial for further studies about different injury types with a larger case series with more comprehensive factor examination.

PP-318

Death from massive pulmonary thromboembolism in ovarian neoplasm: a medico-legal case report

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Introduction: Pulmonary thromboembolism is a serious complication in ovarian tumors, especially if associated with large uterine fibroids that favour the compression of large venous districts facilitating stasis. The increased risk of developing deep vein thrombosis (DVT) is not related to tumor size, but rather to age and body mass index (BMI) of patients that need to be, respectively, more than 50 years and 25. The purpose of this report is to present a particular case of fatal pulmonary thromboembolism caused by pelvic compression by ovarian cancer.
The case: A 74-year-old woman, weighing 103 kg and 172 cm tall, was found dead at her home. From judicial acts it was resulted that she suffered from hypertension and was reluctant to undergo medical treatment, but that she would have to perform some health checks because she was a carrier of a massive ovarian cyst. The judicial authorities ordered the autopsy two days after the discovery of the body.
Necropsy findings: The corpse showed a proper nutritional state at the dissecting table and was well-preserved, with obvious abdominal globosity. No signs due to any harm were evident to external examination. The systematic examination of the organs showed formations completely occluding the lumen of the hilar pulmonary vessels, bilaterally; their morphological characteristics (mottled appearance, opacity, friability, tenacious adhesion to the vessel wall) permitted to identify their thromboembolic nature. Abdominal cavity dissection evidenced a voluminous neoformation (104 cm/15 kg), interesting adnexal structures, that occluded large part of the pelvic cavity with compression of the organs below. The exploration of the pudendal plexuses showed the

origin of the material found in the pulmonary vessels. The cause of death was identified as massive pulmonary thromboembolism in a woman with massive ovarian neoplasm.

Results: Histopathological investigation was carried out on organs and on the material occluding the hilar vessels and pudendal plexuses, removed during autopsy and fixed in 10 % buffered formalin. The results have confirmed the same thrombotic nature and chronology of entity analyzed in the two vascular beds, making it possible to recognize the massive ovarian neoplasm, histologically identified as an "Atypical Proliferative (Borderline) Mucinous Tumor", as the risk factor for the venous thrombosis and subsequent embolization.

Conclusions: Authors describe a case of death caused by massive pulmonary thromboembolism originated from a voluminous ovarian mass that has given rise to venous stasis of the pelvic district.

PP-319

Pmi estimation and multidisciplinary approach in burned remains

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Background: Fire is sometimes used in cases of self inflicted injuries and suicide. Burned remains can be found also in several accidents of different origin (cars, aircraft crash, industries, domestic, etc), and cases of burnt bodies, found in different locations such as open fields, cars and indoors have been reported by several authors. In these cases only a multidisciplinary approach allows the PMI estimation and the identification of the cause of death.

This case concerns a homicide/suicide in which the burned bodies of a female and her two sons (3 and 11 years-old) have been found in a car during the summer 2011, in Central Italy. In this case insects may be the only tool useful in the estimation of the minimum time of death (mPMI) as burning prevents the use of the classical thanato-chronological techniques for mPMI estimation.

Method: in order to estimate the mPMI larvae have been collected from bodies and then reared for their identification. After flames have been extinguished colonisation started in all the bodies at the same time. Lucilia sericata and Sarcophaga sp. larvae have been collected both from the abdomen and the skull, exploded because of the temperature.

Besides the autopsy, CT scan has been carried out to identify body injuries and toxicological investigations were carried out to determine whether children could have been poisoned or stunned before being been burned. All of the three bodies had undergone 16-slice multidetector CT (Toshiba Aquilion) basal scan and post processed with 3D and MPR reconstruction. Biological samples were collected for toxicological analysis.

Results: At MSCT scan none of three bodies exhibited signs of injuries like traumatic fractures or lacerations and no evidence of foreign bodies. Toxicological results revealed high concentrations of carboxyhemoglobin and extremely low levels of cyanide in all of the three bodies while only in the children the analysis was positive for benzodiazepine, according to the fact that the mother has given them Diazepam when they still were at home, as seen in the video recorded by the security cameras placed inside the house.

Conclusion: this report demonstrates the usefulness of multidisciplinary approach (pathological, radiological, entomological and toxicological) in the study of burned remains in order to confirm the event of a combined homicide-suicide as initially supposed.

PP-320

Cause Of Death In Forensic Autopsy As A Pulmonary Fat Embolism: 2 Case Reports

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Fat embolism, bone fractures, barotrauma, surgery, soft tissue damage may be due.

Fat embolism, bone marrow, soft tissue, large amounts of fat globules in the bloodstream, with the participation occurs.

Long bone fractures and orthopedic surgeries done after the main source of fat embolism.

Case 1: A 67-year-old woman

Multiple fractures of the extremities and pelvis fractures after a traffic accident at the hospital in the female patient with sinus bradycardia, respiratory distress developed.

Died did not respond to CPR applied have been accepted.

The histopathological examination revealed findings consistent with fat embolism grade 3–4.

Case 2: A 77-year-old woman.

Fallen from the tree, then the hospital with multiple pelvic fractures detected. Died 3 hours after the start of respiratory distress.

At the autopsy findings consistent with fat embolism in the lung tissue showed grade 3–4.

Fat embolism is common in forensic autopsy practice, either alone or together with other factors in assessing problems have been experienced as a cause of death.

In general, grade 1 and grade 2 cases of fat embolism, systemic dissemination, without the associated clinical features are interpreted as if the cause of death.

PP-321

Immunohistochemical study of pancreas in forensic autopsy cases

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Introducation: In forensic practice, the finding like hemorrhage in pancreas was sometimes observed, but this finding was usually considered as degeneration.

In some textbooks, pancreas easily autolyzed after death, and this caused the finding.

However, we assumed that there might be slightly pancreatitis in those cases.

Thus, we checked the histologically findings of pancreas such as hemorrhage concerning forensic autopsy cases. Additionally, we also checked the expression of insulin and neutrophil elastase (NE) with immune-histochemical method.

Materials and methods: We used 50 autopsy cases in Nagasaki University. The postmorterm duration was from a few hours to about 3 months. The tail of pancreas was employed and stained with Hematoxylin and Eosin (HE) method. In addition, the insulin and NE was visualized immune-histochemically.

Result and discussion: There were 4 samples with the findings like hemorrhage using HE.

As there was one case without getting positive signal of insulin and NE, we considered that the sample of the case could be terrible degenerated and autolyzed, or autolyzed after pacreatitis.

The other case showed the positive stain of insulin and not that of NE. We thought that this case might be early stage of imflammation.

Since the remaining 2 cases had the positive signal of both proteins, inflammation might apparently develop after pancreatitis happened.

Therefore, our results suggested that the findings like hemorrhage in pancreas, which was observed at forensic practice, might due to antolyze. Moreover, pancreatitis must be included adding to autolyzation.

PP-322

Deaths Caused by Systemic Malaria Infection: A Case Report

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Malaria is a common disease (which occurs because of the parasites in the female anophele species of mosquitos), and it causes recurren fever and shivening. Diagnosis and treatment is possible and can easly done. It can lead serious problems if left untreated and even it can be fatal. It is estimated that more than 200 milion people in the world has caught this disease. Actually it is common Asia and Africa but because of airline access it's now spreading all over the world.

In our study, it is reported that the case was 46 years old male, he was from Holland, hotel crew who entered the room in the afternoon because at the fact that he didn't attend the breakfast; found him lying near his bed and medics told he was dead. Two bottles filled with liquid, and 92 tablets with labels of resochin was found in the hotel room investigation

At the autopsy we found various tattoings and ichteric image but not traumatic lesions. Also in internal examination we couldn't find any spesific founding. According to the report of Chemical Specialization Department report, chloroquine was found in the blood (30,7 μg/ml). In the bladder lawage, internal organs and stomach. It is also reported that they couldn't find the things that was searched at the systematic toxicological analysis of the fluids which was found at the hotel and chloroquine was found at the tablets which were labeled as Resochin. At the histopathologic examination of internal organs samples dark bashofilic stained small particles in the eritrocytes which gives an impression of plazmodium merozites was seen at the heart, lung pancreas cerebellum, brain stem and brain, that commonly filling the vessel lumens, at the liver and spleen, filing the sinosids and at the kidneys in the glomerules and at the interstisyl area in the eritrocytes filling the vessel lumens. At the autopsy report; we think that the death was caused because of the systemic malaria infection and the followings complication. According to the literature this type of case are very rare.

In our country malaria is common in East Anatolia and Southeast Anatolia but deaths are also rare in this regions. So it shows the importance of our case.

Also try to highlight the fact that the autopsies of people who came from abroad an travel frequently must be examined due to different diseases.

PP-323

Endocardial Fibroelastosis; A Case Report

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Endocardial fibroelastosis is a very rare heart disease in children. Cases are generally under the age of two and most of them are asymptomatic. Some cases diagnosed during antenatal period.

A previously healthy five -month- old female was found dead on crib. At autopsy, external examination of the body was normal. Internal examination revealed a heart weighed 60 gr. Left ventricular endocardium was thickened and which have turned the colour porcelain white. Other endocardial surface and valves were normal. The aorta, pulmonary arteries and great veins were grossly normal.

Histopathological examination of the heart indicated endocardial fibroelastosis. The lungs showed bronchopneumonia, intra-alveolar fresh hemorrhage, hemosiderosin-laden macrophages within the alveoli. There were no significant abnormalities/changes in other organs.

Toxicological analyses revealed that there were no toxic substance, neither any drug and / or alcohol in his blood nor body fluids.

A forensic autopsy case of endocardial fibroelastosis will be presented and discussed on the bases of macroscopic and histopathological findings.

PP-324

Fatal occupational injuries between 2000–2008 in the Lisbon Area – A retrospective study

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Background: Occupational deaths are used as indicators of occupational safety worldwide. Recent literature has questioned the accuracy and completeness of ascertainment of such cases by various sources of information. In Portugal, occupational injuries are ruled by the Law 98/2009 that defines occupational injuries as a sudden and unexpected event suffered by an individual at the workplace or during working hours, performing work related tasks and/or during work related transportation. When the individual dies as a consequence of an occupational injury and enters the Forensic Pathology Department of the National Institute of Legal Medicine and Forensic Sciences (INMLCF) not all of the circumstances of the death event are necessarily known, so an underreporting of the fatal occupational fatalities can occur.
Methods: The information database of the South Branch (Lisbon) of the INMLCF, which classifies medico-legal death etiologies based on the death certificates and autopsy reports, was used. These reports include autopsy findings and laboratory and auxiliary imaging studies. Also, hospital and Police reports serve as complementary informational documents related to the event of death. Nine years (2000 to 2008) of deaths classified as occupational have been identified and reviewed for general socio-demographic characteristics and circumstances of death. Data was also compared to the official government statistics as an attempt to frame them in the country panorama for the same period.

Results: In the year 2000 a total of 234.182 occupational injuries were reported in Portugal (Social Security Ministry statistics), with a mortality rate of 0.00157. A decrease in the number of fatalities and a very subtle increase in the number of occupational injuries were subsequently recorded, reaching a mortality rate of 0.00116 per occupational injury in 2008. Our institutional data reveals a following decreasing tendency in the same period.
Conclusions: The observed consistent gradual tendency decrease in the number of occupational fatalities accompanies a national tendency, and might be explained by a number of factors such as safety measures adopted by the employers, road safety measures and slowing of the economy. An underreporting of transportation fatal injuries during work and work related activities is to be expected, due to general lack of information on the circumstances of traffic accident. The results also suggest the importance of carrying out case finding and of incorporating death certificates as one of the documents to be systematically reviewed, in order to collect more accurate statistics minimizing the underreporting of fatal occupational injuries.

PP-325

Lethal Disseminated Parasitosis From P. falciparum. Imported Paludism In Milan: A Case Report

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Introduction: Most recent epidemiological studies about the surveillance and the Italian case reports of "imported malaria" confirm that there are a decrease of the number of the imported cases and a stable percentage of deaths, inferior to the European average. In our country, 83 % of cases is due to P. falciparum, that it is responsible also for the 0,004 % of deaths. The Authors report a lethal case of imported malaria that affected an Italian man (and that it was) characterized by a particular seriousness in its development.
The case: A 45 year-old man was found cadaver in his home by his relatives. They reported that he had spent his Christmas holiday in Mozambique but he did not have endemic disease prophylaxis. In the days after home-coming, he developed persistent hyperthermia with shivering for which he was also examined by his family doctor that prescribed paracetamol. It is unknown if the victim had revealed anything about his journey in a country where malaria is endemic to his doctor. Judicial Authority was informed about this death and a medico-legal autopsy was ordered two days after cadaver recovery. Autopsy did not show pathological findings that were demonstrative of the cause of death. On suspicion of a death due to a malignant form of malaria, toxicological, histological and parasitological analysis were performed on organs and biological fluids collected during autopsy.
Results: The histopathological analysis of organs stained with Heamatoxylin-Eosin showed intracytoplasmic malaria pigment located in lungs, hearth, liver, kidneys, spleen and brain. The histopathological analysis of thick blood smear stained with May-Grűnwald Giemsa (MGG) showed parasites in "ring configuration" that indicated a systemic malaria infection caused by P. falciparum. The toxicological analysis were negative.
Conclusions: This case report is particular because of the exceptional findings in Italy of an acute systemic malaria infection, the most important parasitosis in the World. For this reason, the Authors could qualify the exposed parasitosis as an imported disease diagnosed at post-mortem examination. The seriousness of this infection is also remarkable: in fact, it can be considered a pernicious malaria because of its systemic spread leading to the death of the victim, (an event considered today rare in industrialized countries.

PP-326

Accidental cervical transection of a motorcyclist due to a rope tight across a driving street

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Background: The most common mechanism of fatal injury in motorcyclists is usually due to severe blunt force trauma, determining injuries mainly located at the head, neck and thorax. Motorcyclists typically collides with moving or stationary objects hitting them in different ways. The crashes are also influenced by several risk factors, such as the behaviour of both the victim and of other people involved. The Authors present an unusual fatal case of a man driving a scooter, who hit a rope tight across the road he was riding, suffering wide lacerated wounds of the neck, rupture of trachea, and hyoid and cervical spine fractures by hyperextension of the neck.
Method: A 53-year-old man, while he was riding a scooter, hit a rope which was tight across the road, between a tree and a car parked on the opposite side to allow the pruning of trees. The witnesses saw the rope hitting firstly the windshield of the moped and then the neck of the rider who fell to the ground, dying shortly after. According to the police report, the man was not wearing helmet, driving fast.
Results: External examination showed bruises of forehead, nose, lips, and limbs with linear transverse abrasions on mandibular and laterocervical areas. A 9 centimetres lacerated wound was observed on the base of the neck. At autopsy, a cerebral and cerebellum subarachnoid hemorrhages, with transection of the brainstem, rupture of left posterior communicating artery and trachea, fractures of hyoid bone, laceration of the left sternocleidomastoid muscle, fractures of C1, C2 with section of cervical spine, were found.
Conclusions: Trees are the most common causes in determining accidental fatal crashes in motorcyclists. In the case here presented, the cause of death was due to severe cervical spine trauma associated with subarachnoid hemorrhage, transection of brainstem, and vascular injury. Neck wounds was caused by the rope dragging and compressing upward on the anterior neck, resulting in a forced hyperextension of the cervical spine, and subsequent tearing of the skull base vessels.

PP-327

Parasailing Fatalities: a Report of Three Cases

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Parasailing is one of the most popular recreational activities in which a person is towed behind a motorized boat while attached by tow rope to a special designed parachute. There is only one published report of deaths occurring during parasailing activities in the forensic literature. In this study, we report for the first time, characteristics of three cases of parasailing fatalities occurred in Antalya, Turkey.

In one of these cases, a tourist and her friend, plunged into the sea while tandem parasailing as a sudden wind broke off the rope between the parachute and the boat. One of them died while the other was seriously injured. In another case, a tourist released his own safety harness while tandem parasailing, he made acrobatic moves and fell into the sea.

In third case, a tourist fell onto the beach after his safety harness failed while tandem parasailing. Autopsy findings in this case showed more fatal injuries due to hitting the ground.

These cases demonstrate some injury patterns in parasailing fatalities as well as the importance of wind conditions at the time of incidence, a thorough safety briefing before flight and the usage of proper equipment for parasailing.

PP-328

Incidental Mediastinal Gossypiboma: Interpretative Medico-Legal Difficulties In A Case Of Malpractice Happened 14 Years Before Death

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Introduction: The presence of a gauze retained in the thoracic cavity is a rare complication of a previous surgery and occurs more frequently in paediatric field, representing conversely an unusual occurrence among the adults. This report regards the accidental finding of a gauze in mediastinum, "forgotten" 14 years before the death of a woman, carrier of valvulopathy, whose death would have occurred for reasons not imputable to the intrathoracic foreign body.
The case: A fifty-three-year-old woman, Jehovah's Witness, underwent surgery of aortal and mitral replacement and plastic operations on a tricuspid valve. 14 years later, for the appearance of new symptoms, she had a further successful operation. The postoperative course was marked mostly by rehabilitative therapies, until the onset of respiratory failure, bilateral pleural effusions and fever, complicated by heart failure, which culminated in the death, due to hematemesis. At first, a not medico-legal autopsy was performed, straight afterwards suspended for the finding of a 5 cm tumefaction in the mediastinum, consisting of surgical gauze. The Judicial Authority was informed and ordered the medico-legal post-mortem examination, three day later.
Results: The judicial autopsy, in addition to the signs of previous necropsy, showed findings on heart (globose and hypertrophic), lungs (hepatized) and stomach (ulcers), thereby identifying the cause of death in the Multi Organ Failure (MOF) complicated by gastro-enterorrhagia for cardial ulcer. The mediastinal mass, consisting of partially digested and flaked surgical gauze, free from active inflammation, was radiographically compared with a sample of gauze in use at the last division of Heart Surgery where the patient was hospitalized, appearing completely different in kind. Histopathological examination of the viscera showed an acute generalized infectious involvement of multiple organs, which was quite consistent with the proposed cause of death, whereas that of garzoma, with no signs of acute and subacute inflammation, confirmed the initial macroscopic evaluation, indicative of a dated retention in the thorax of the foreign body.
Discussions: The case of malpractice, here reported, highlights the diagnostic and interpretative difficulties, regarding the incidental finding of a foreign body in the mediastinum, if the radiographic investigations, performed for chronic nonspecific symptoms, should not be conclusive. In particular, it is difficult to identify the role played by the intrathoracic foreign body, as primum movens in the genesis of sepsis responsible for the death, lacking post-mortem signs of active inflammation. Thereby, the histopathological investigation confirmed their essential importance in proper comprehension of a case.

PP-329

Fatal injuries in cyclists: analysis of the epidemiological and medico-legal aspects and of the protective role of the helmet in a post-mortem case record in the territory of milan from 1995 to 2010

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Introduction: The involvement of the bicycle in traffic accidents is growing, especially in large urban conglomerates, such as, for instance, the Milanese one. The use of this form of transport is aimed for sports or recreational activities and its diffusion is due to logistic expediency. and ease of use. However, bicycle crashes are responsible for significant morbidity and mortality, due to simple falls and involvement of motor vehicles. In either event, the effect is often represented by head-brain injuries, which could be significatively reduced, if not even avoided, as reported by numerous studies, with the use of a suitable protective helmet. In Italy, despite the amendments to the legislative Decree of 30 April 1992, n° 285, introduced by the Law of 29 July 2010 n.120, the use of helmet is optional, as it is not mandatory even for children under 14. The purpose of this report is to demonstrate the efficacy of helmets, especially as regards lethal head-brain injuries.
Materials and methods: A retrospective study was performed using a post-mortem case record, collected between 1995 and 2005 at the Section of Legal Medicine of the University of Milan, relating to all cases of death due to road traumatism, with significant involvement of a bicycle. The analysis of the available necroscopic documents allowed to investigate the kind of the found lesions, the circumstances of the accident, and, if present, the protective efficacy of helmets.
Results: The number of cases was equal to 269 (1.6 % of total), examined considering various parameters: sex (male in 81 % of cases), age bracket (52 % of cases between 60 and 79 years), survival (64 %), seasonal trend of the events (oftener during spring and summer) and crash site (urban roads). The accidents happened in three ways: direct impact (231 cases), running down of the cyclist (31 cases), and impact followed by projection against obstacle (7 cases). The protective helmet was worn by only one victim. In most cases (84 %), the pathological lethal found was head-brain injuries, related with non-use of helmet.
Conclusions: The high number of helmetless cyclists, who died from injuries sustained in the cephalic region, would require legislative implementation of proper measures of prevention, such as the obligation to wear helmet, required for all two-wheelers, and the creation of special cyclists-reserved lanes.

This in order to reduce both the number of accidents and the frequency and severity of injuries suffered by road cyclist users.

PP-330

Postmortem trace elements in lung and its relationship with changes due to chronic exposure to tobacco

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Different components of tobacco are heavy metals. These have proven to be carcinogenic in humans. Its main mechanism of action is to be comutagenic, i.e. involved in DNA repair processes. The aim of this study is to determine the concentrations of trace elements in lungs of deceased subjects and analyze its relationship with histopathological changes file due to chronic exposure to tobacco. We studied 62 medium lobes of lung from subjects with a mean age of 56 years. The different concentrations of trace elements (Ni, Sr, Br, Cd, Pb, Cr, Zn, As, Se) have been determinated in lungs. Solutions of lungs were prepared by acid-assisted microwave digestion by employing HNO3 and H2O2, and analyzed by inductively coupled plasma mass spectrometry (ICP-MS). Lung tissue samples were examined under light microscopy. The severity of pathological changes was scored. Peribronchial inflammation was prominent, especially the presence of aggregates. Furthermore, the subjects exhibited alveolar destruction, emphysematous changes, epithelial proliferation, and increased alveolar macrophages, whereas control group did not. Vascular wall thickness, perivascular leukocyte-rich inflammation and interstitial inflammation were of moderate severity in subjects exposed to tobacco smoke. We found significantly higher levels of cadmium, bromine, nickel, arsenic, chromium and strontium in lung with histopathological changes due to chronic exposure to tobacco.

PP-331

Carbon Monoxide Intoxication Death in the North of Portugal (2005–2011)

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Background: Carbon monoxide (CO) is an odorless gas that can cause serious or fatal intoxications. Domestic accidents, caused by heating devices, are a public health problem worldwide; they constitute an important problem that is happening in Portugal mainly during winter, requiring special attention. CO intoxication also becomes an important subject since it can easily be used to commit suicide. This study aims to describe the epidemiology and characteristics of CO poisoning death in the North of Portugal.
Method: All the autopsy reports from the North Branch of the National Institute of Legal Medicine with CO toxicological requests were analysed, between January 2005 and December 2011. Data from circumstances of death, month of the year, gender, age, marital status, racial afinity, CO source, toxicological results, carboxyhaemoglobin (COHb) blood values and medico-legal death etiology were analyzed. SPSS 19 was used for the statistic analysis.
Results: In this period, 112 people died by CO intoxication: 70 % (n=78) were male (ratio female:male=1:2.4). The highest frequency of death (36 %; n=40) occurred in the group over 65 years; the youngest was 4 and the oldest 93 years, both females. Deaths occurred mostly in winter, especially in January (27 %; n=30) associated with fires (46 %; n=39) and heating devices (30 %; n=24), at home (56 %; n=62). Mostly (63 %; n=55) were diagnosed as domestic accident and 20 % (n=18) as suicide; 56 % (n=62) of the victims were alone at the moment of the occurrence. Post mortem toxicological screen revealed that almost half of the deaths (47 %) were positive for alcohol and/or drugs and 73 % (n=80) of all presented carboxyhaemoglobin (COHb) >50 %.
Conclusion: The study results suggest that preventive interventions should be targeted at home environments and focus on at risk-groups such as men and elderly people, living alone. Setting stricter standards and environmental legislations, especially about fires, and promotion of public awareness against the dangers of CO exposure, mainly at home, are important considerations for overcoming this public health problem, trying to reduce the number of fatal events.

PP-332

Concealed homicide by fire about a case

Ouallouche Kahina
chu nedir mohammed tizi ouzou algeria
The 22nd Congress IALM, Which Will Be Held in Istanbul from 5 to 8 July 2012.

Dr B.BOULASSEL-K.OUALLOUCHE-F.ALEM-H.BOUREKACHE-M.ADJELOUT
CHU NEDIR Mohamed TIZI-OUZOU
Algeria

Concealed homicide by fire about a case

Summary /

Carbonization is the fourth degree burns after erythema, blisters and pressure sores. Forensic forms are dominated by accidents followed by suicide and homicide. The existence of cases of concealment of crimes by charring of corpses requires the medical examiner attention in the practice of lifting bodies and autopsies. The intent of the carbonization of a corpse is twofold: to mislead investigators about the deaths origins but also hinder identification.

The pathology and biology provide an undisputed assistance in assessing ante or post mortem burns.

During our activity, cases of concealment of crimes by the fire were autopsied; one of them has proved very informative.

PP-333

Sudden death following hydatid cyst of the heart (About a case)

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The 22nd Congress IALM Istanbul from 5 to 8 July 2012.

Sudden death following hydatid cyst of the heart (About a case).

Dr B.BOULASSEL-K.OUALLOUCHE-F.ALEM.H. BOUREKACHE-M.ADJELOUT
CHU NEDIR Mohamed TIZI-OUZOU
Algeria
Summary / Abstract.

The concept of "natural" sudden death requires clarification: unexpected and unpredictable, very short duration between onset of symptoms and death, cause thinning only by autopsy. The cardiac causes cover 75 % of cases.

We report a case of a young adult girl of 19 years, high school student, following a strong emotion, she died suddenly. The autopsy of the heart has allowed to show a renitent large mass of 05X4 cm occupying the ventricular septal which histological examination established the diagnosis of hydatid cyst.

The hydatid cyst of the heart is a rare pathology, even in countries endemic for hydatidosis, cardiac localization is 0.5 to 2 % of all other locations; This scarcity is explained partly by the need to cross the dam liver and lung by scolex before reaching the coronary circulation and partly by the natural resistance to the establishment of viable cysts offered cardiac contractions.

The etiologic diagnosis in postmortem intracardiac tumors can be difficult in the absence of obvious elements anamnestic necessitating the use of additional tests such as histopathology.

PP-334

The Excessive accumulation of hemorrhage into the abdomen; Cardiopulmonary Resuscitation? A legal autopsy case

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We report a legal case of a 37-year-old woman with a ruptured liver found at autopsy, which may have been related to the use of a mechanical cardiopulmonary resuscitation (CPR). At autopsy, a sign of intracardiac enjection that was performed in the hospital during CPR and strernum bone fracture was found. Unexpectedly, excessive accumulation of hemorrhage was seen into the abdomen. In addition, presence of hematom whose depth was measured as 1 centimeter was discovered through the Ligamentum

Teres Hepatis. Despite prolonged continuation of mechanical CPR, she died of acute myocardial infarction. It was aimed that our case report may contribute to emergency and first aid medicine alongside with forensic pathology or forensic medicine literature.

PP-335

Double-death case due to lightning strike

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Lightning could be one of the most fatal natural events for human being. We report a legal case of double death which is related to lightning strike. According to eyewitnesses, it was clear that the event was suddenly and simultaneously occured. Cases were found as hugging to each other by crime scene investigation team in an exposed terrain near the outside of city. Ages of two boy victims who were cousin of each other were 13 and 15 years old. Torn and punctured parts on the clothes and shoes that was belong to victims were detected during the physical examination of the corpses. Asymmetric fumigated areas on the scalp, which was right temporal region of one case and left temporal region of the other, were a conspicuous clue. In our poster presentation, their sociodemographic characteristics and external traumatic findings of the cases, time of death, results of postmortem toxicological and histopathological examination as well as scene investigation features are discussed.

PP-336

Diagnosis of CO intoxication with MR findings; case report

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Carbon monoxide which is a colorless, odorless and nonirritant gases produced by noncomplete consumption of carbon fuels. It is slightly lighter than air and highly toxic gases at the lower concentrations. Carbon monoxide poisoning is the most common type of fatal air poisoning in many countries. In many countries, carbon monoxide intoxications are estimated more than half of the all fatal poisonings. When carbon-based fuels burn in the stoves, deaths and poisonings mostly can be originated from the lack of knowledge or omission. Our case was 61 years old woman. She was living alone. She was found within her house as a confusion state. She were follow-up in the intensive care unit with the diagnosis of CO intoxication. We discuss this case with her diffusion MR findings.

When people found her within the house, her house was smelt smoky. She was intoxicated from her stove. She was found by her relatives. The woman was brought to the emergency room and intubated. She was followed up with the diagnosis of carbon monoxide intoxication in the intensive care unit. Women were followed in the intensive care unit and then she died around the tenth day. When clinical symptoms have been evaluate together with the MR findings, It was decided that it was suitable with carbon monoxide poisoning. The criminal investigation file and treatment documents were sent to the Council of Forensic Medicine First Specialization Board and asked the cause of death by the prosecutor's office. When these files and diffusion MR images were evaluated, limited diffusion was observed at bilateral lentiform nuclei. As soon as poisoning occur, MR images were taken at the same day. After evaluation of diffusion MR images, stove smoke condition and confusion, Council of Forensic Medicine First Specialization Board was decided that the cause of death was originated from carbon monoxide poisoning.

PP-337

Biochemical analyses of vitreous humor as a means of estimating the post-mortem interval

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Vitreous humour is a useful medium for postmortem biochemical analysis due to it's anatomic characteristics. After death, autolytic processes in vitreous humor take place, when changes in electrolyte concentration occur. The aim of this study was to analyse whether the concentrations of potassium(K+), magnesium(Mg2+), calcium(Ca2+) and lactates(L) in vitreous humor correlate with the postmortem interval. The prospective study included a total of 63 corpses, which were divided into two groups according to the temperature at which they were stored; corpses in the first group were kept at a temperature of 4° C (32 corpses), while the corpses of the other group kept at 20°C (31 body. Upon admission of the bodies to the Institute of Forensic Medicine, 0,1 ml of witreous humor was withdrawn from one eye only every three hours using the technic of repetitive sampling and immediately frozen at - 20 ° C. The concentrations of potassium, magnesium, calcium and lactate in VITREOUS HUMOR were measured using ARCHITECT C SYSTEM 8000. Highly significant correlation between VH potassium and PMI as well as between VH lactates and PMI was found, and therefore, equations for accurate estimation of the postmortem interval were defined including concentrations of potassium and lactates:
PMI=2,561x[K+] - 8,803, r=0,839 in the group of corpses kept at 4°C;
PMI=2,746x[K+] - 12,305, r=0,926 in the group of corpses kept at 20°C;
PMI=1,493x[L] - 8,044 r=0,688 in the group of corpses kept at 4°C and
PMI=1,646x[L] - 10,450 r=0,877 in the group of corpses kept at 20°C.

Calcium and magnesium demonstrated much weaker correlation against PMI and therefore, their use is not recommended. Further investigations are needed to evaluate those formulas on blinded cases with a known PMI in order to show whether the results are transferable to a single time removal of VH, what is the technique used in practical casework

PP-338

study of 41 cases of suicide by self immolation in sfax (Tunisia)

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Objective: Given the remarkable rise in self-immolation in Tunisia in 2011

This study aims to investigate the risk factors related to the phenomenon, understanding warning signs for suicide is a crucial aspect of suicide prevention

Methods: It is a retrospective observational study condacted at the department of legal medecine of Habib Bourguiba Hospital, Sfax, from January 2003 to January 2011

All cases will reviewed for demographic variables including age, gender living area, marital status, employment status, psychological trauma, socio-economic status and trigger factor

In most of the cases, the individual had doused them selves in inflammable fluid, usually petrol

Results: among the 41 self-immolation cases recorded in the period. A majority of the victims were male (sex ratio: 4) with a mean age of 32 (between 15 and 56). 8 of the cases had previous psychological traumas. In most of the cases, immolation was done in public area. In 6 of the cases, the trigger factor was a family conflict, and in 8 others, i twas a conflict with the authorities. For the rest of the victims, they are unclear.

The median total body surface area burnt was 82.5 % (range30-100 %). All the victims had soot in their respiratory tracts soot in the respiratory tracts was associated to soot in digestive tracts in 10 cases. Blood had a mean 21 % carboxyhemoglobin concentration.

31 of the victims were jobless, 6 were daily warkers, and 4 were students. 9 were married and 31 were single.

Conclusion: This study suggest that the low socio economic statu is directely associated with this phenomena which reached epidemic proportion that spread to other cauntries like Algeria, Egypt, Yemen and Libya. Despite the relegious context strictly forbidding suicide.

In most of the cases, self immolation is seen as an act of self-glorification, symbol of humanity, and of desire to change.

PP-339

Exogenous Lipoid Pneumonia: Autopsy case report

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Backround: Lipoid pneumonia is an uncomman disease caused by the accumulation of lipid in lungs. It is usually classified into two groups, ie,exogenous or endogenous, depending on the source of lipid found in the lungs. Symptoms can vary significantly among individuals. The usual presentation occurs with nonspesific respiratory symptoms such as dyspnea and/or caugh. Radiologiacally lipoid pneumonia can manifest as consolidations or pulmonary noduls of soft tissue dansities. These presentations involve a wide differential diagnosis. Owing to the nonspesific clinical presentation and radiological features, the diagnosis is often missed or delayed. Generally acut presentation runs a benign caurse if promtly treated. Chronic cases are more persistent and difficult to treat. Possible complications include superinfection by nontuberculous mycobacteria, pulmonary fibrosis, respiratory insufficiency, cor pulmonale, and hypercalcemia.

Case: In this study, 10-year old female who had microcephally, tetraplagia, and mental-motor retardation is presented. She was presenting bronchopneumonia symptoms and hospitalized before she had died. Autopsy was performed in morgue department of Council of Forensic medicine, in Izmir. Grossly, the lungs were heavy, firm, and edematous. Microscopically, edema, hemorrhage, acut inflamatory infiltration, large lipid inclusions, foreign body giant cells, and macrophages were seen. The diagnosis is exogenous lipoid pneumonia.

Conclusion: Diagnosis of this disease requires high index of suspicion and can be comfirmed by histo/cytological examination of respiratory samples. Physicians and pathologists should consider this medical condition in order to prevent delaying of the diagnosis.

PP-340

Death following malfunction of mechanical ventilation in als patient: “natural” or “mechanical” asphyxia?

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Background: Amiotrophic Lateral Sclerosis (ALS) is a progressive, fatal, neurodegenerative disease with most affected patients dying of respiratory compromise and/or pneumonia 2 to 3 years since diagnosis. As ALS progresses, ventilatory assistance is required. In the end stages of disease, patients suffer from respiratory failure and become ventilator-dependent. Deaths due to malfunction of mechanical ventilators are reported but forensic autopsy records are very few. We report the case of a 69 years old ALS female ventilator-dependent, trachostomised patient found dead by her husband, with the ventilator in “stand-by” mode.

Method: A forensic autopsy was performed. Samples of internal organs were taken for histological and toxicological examination. The ventilator internal memory was also analyzed and tested in order to find possible malfunction.

Results: gross examination did not reveal any sign of trauma but showed brain and lung congestion. Pulmonary histological examination revealed thickening of peribronchial interstitial space, alveolar over-distension, break of inter-alveolar walls and diffuse alveolar haemorrhages. Focal microhemorrhages were also detected in other organs. Analysis of the ventilator internal memory showed that during the night of death, several voltage drops happened. Specific tests revealed malfunction of the internal battery which was unable to provide the necessary voltage, as a consequence the ventilator switched off, stopping ventilation. Battery malfunction reduced the volume of the ventilator’s alarm which was not heard by caregiver.

Conclusion: Histological pattern, with acute pulmonary emphysema and focal polivisceral haemorrhages, is strongly suggestive for a death due to “acute mechanical” asphyxia. The authors discuss the hypothesis that ALS patient maintained a residual breathing capacity and coul still answer to hypoxia. In the present case the hypothesis is that when the ventilation stopped, the patient produced a respiratory effort trying to breath spontaneously, but found a mechanical obstacle due to the presence of cuffed tracheostomy cannula.

PP-341

Giant cell myocarditis in newborn

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Background: Idiopatic giant cell myocarditis (IGCM) is a rare cause of arrhythmia, heart failure and death in children. Abouth %20 percent of cases myocarditis is associated with number of immune disease. The etiology or an exact cause of IGCM is unknown. Endomyocardiyal biopsy and histological examination is need to be done for diagnosis. In our case, 1 month old baby boy was dead during breast feeding without any known disease before. The family has been warned abouth cardiac arrhytmia but no further diagnosis was made.

Method: The baby boy was autopsied. During autopsy, we could not find any gross pathology and any postmortem toxic substance was not found either. Tissue sampling from main organs were done by pathologist and H&E stained slides were prepared and evaluated.

Result: When H&E stained cardiac slides were examined by pathologist, we saw widespread and multifocal necrosis with mixed inflammatory infiltrate composed of lymphocytes, histiocytes and plasma

cells. Admixed with the infiltrate were fibroblastic proliferation and multinucleated giant cells in the absence of sarcoid like granuloma. That whole view perfectly fits the IGCM.
Conclusion: We want to share this case with other colleagues just to remind them IGCM as a rare and highly mortal disease.

PP-342

Bronchpulmonary Dysplasia in Preterm Infants

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Backround: Bronchopulmanary Displasia (BPD) is actually is a problem of premature infants. But it can be explained like: mature babies', children's, even adults' choronic lung disease. In neonatology it can be described like; continued oxygen requirement and need for supplemental oxygen because of the lung pathotologies in new born babies. BPD evolution risk increases when the infants with birth weight <1250 grams and less mature infants(<28 weeks' gestational age). It is a disease that mortality and morbidity risk is high. In infants with BPD, the sudden death risk is seven times greater in infants with BPD than the infants who don't have BPD.
Method: The preapared sections of lung, which is sent to our laboratory, from the postmortemed case in Council of Forensic Medicine, Ankara, Turkey are stained with H&E method and scanned in light microscobe.
Results: Our case is born in 7,5 months, after three week treatment our case discharged from the hospital and found dead in bed with no reason. This case's microscopic investigation: airway epithelial hyperplasia and squamous metaplasia, alveoler wall thickening and peribronchial as well as intersitial granulation tissue. The current view is that BPD is caused by an arrested development of alveoler septation at the sacculer stage.
Conclusion: In this cases histopathologic investigation is one of the most important step of finding the reason of death. Sudden death in BDP can lead to malpractice allegation. We describe one autopsy case with BPD and review of the literature.

PP-343

Fatal Aorto-esophageal Fistula in Child

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Background: esophageal foreign body is especially very frequent in childhood and may cause mortal complications in case of late diagnosis and treatment. We represent 2 year old baby girl who was taken to emergency with masif bleeding and couldn't be rescued. Rarely foreing body penetrate deep into esophagus, It is reported abouth %1-4 percent in literature. İn our case unrevealled foreign body made an aorto-esophageal fistula and caused sudden death.
Method: The baby girl was autopsied. Tissue sampling from main organs were done by pathologist. H&E stained slides were prepared and evaluated with light microscopy.
Results: During autopsy by gross examinations aorto-esophageal fistula was detected. When we evaluated the histopathologic slides, there was calcificated body with multinucleated giantcell and granulation tissue around. And we saw ulcerated fistula tract that run from intima to adventitia passing whole layers of esophageal wall.
Conclusion: The mortalite rate of swallowing foreing body is under %1 percent, unless perforation diagnosis is on time. We represent this case to remind this rare and mortal case.

PP-344

Two Pediatric Autopsy Cases with Kawasaki Disease

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Background: Kawasaki disease(KD) is an acute, generally self limiting vasculitis of small and middle sized arteries seen in infants and young children. Death rarely occurs in acute stage and most fatalities being reported in subacute/healing period in nearly 2 % of patients. Necrotizing arteritis of subepicardial coronaries, leading to coronary aneurysm, thrombosis and dissection of coronary arteries, myocardial ischemia and myocarditis are the best known causes of death.
Case 1: A 4-months-old baby boy, internalized with prolonged fever, oropharengeal hyperemia, gastroenteritis and skin rashes, died after 10 days of antibiotheraphy, according to the acute cardiac and respiratory failure, was autopsied in Morgue Department of Council of Forensic Medicine.

Necrotizing coronary arteritis with extensive occlusive thrombosis that involve the subepicardial coronary tree, myocarditis, endocarditis, lymphocytic interstitial pneumonia were found on macroscopical and histopathological autopsy examination of the case. Cervical lymph nodes, spleen and tonsils showed reactive lymphoid hyperplasia. On histopathological examination of central nervous system and other organs, we founded nothing but edema and congestion.
Case 2: A 2-years-old boy, who had stomach ache during last week, internalized to the hospital, with acutely developing, confusion, bradicardia, acidosis and congestive failure died at the same day, was autopsied in another center and counsalted to Morgue Department of Council of Forensic Medicine.

On macroscopical examination, two large aneurysm were found on left main and right coronary arteries sized 2,5 cm and 1 cm respectively. Histopathologically we found necrotizing coronary arteritis, formation of two large coronary aneurysm, organizing thrombus within those aneurysms, acute and healing myocardial infarction. On histopathological examination of central nervous system and other organs we found nothing but edema and congestion.
Results and conclusion: The disease is recognized through a constellation of clinical signs that can mimic other benign conditions of childhood. Fever, cervical lymphadenopathy, pharyngeal and conjunctival inflammation and erythematous skin rashes are the most common clinical symptoms. The etiology remains unknown but inflammatory response, triggered by an infectious agent in genetically susceptible patients, is suspected.

On pediatric autopsy cases in which there was upper airway infection symptoms at antemortem clinical survey, coronary arteries, lymph nodes, myocardial samples and spleen should be added for histopathological examination and must be carefully examined in order to exclude KD on the differential diagnosis.

PP-345

Establishment of a mechanism to commit suicide by applying external pressure to the neck with a ligature: A case report

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Strangulation is a type of mechanic asphyxia. This type of asphyxia occurs as the result of applying external pressure to the neck. Strangulation can indicate usually using either of the hands or a ligature. Although they are the most common type of examples of strangulation, this type of asphyxia can be done by means of forearm or a rough object (mugging). The physical examination and autopsy findings can vary according to the using objects. Using hand or ligature are the most common type of strangulation. Many kinds of material can be used as a ligature. Although strangulation was used as a judicial execution method by many commities historically, origine of the strangulation is usually homicide.

Our case was a 70 year old man. He lived with his wife and children in the same house but they shared separate rooms with his wife. He had been treated for 5 years due to psychiatric disorder. When his wife went his room to call the breakfast at 10 clock in the morning, he was found dead in his bed. His corpse was detected by his family and his brother. And then they called the police. Police identified that one end of the phone cord is wrapped around his neck and the other end was tightly extend to the bottom of the right heel.

Our case established a mechanism to commit suicide. In this mechanism there was application of external pressure to the neck with a ligature. It is seen very rarely. For this reason, the case is presented.

PP-346

Hypertrohic cardiomyopathy as an incidental finding in autopsy

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Background: Hypertrophic cardiomyopathy, a primary cardiac disorder characterized with myocardial hypertrophy and disarray, is one of most common cause of sudden death among athletes and individuals younger than 30 years old. The first manifestation of this entity can be sudden cardiac death. Besides identified many clinical risk factors for sudden death, presence of syncope in adolescence and young adults is of high importance as an index of sudden death. In this paper we present a case sudden death of an adolescent who previously had history of syncope and incidentally diagnosed as hypertrophic cardiomyopathy.

Case history: A 15 years old male was immediately collapsed while fishing and admitted to the emergency department of local state hospital. Obtained medical history revealed that he had previously admitted to hospital with the complaint of syncope attacks; however the family members were unwilling and left hospital without further medical investigation after initial physical examination. Family medical history showed that mother of deceased was already dead because of alleged myocardial infarction.

At autopsy, the thickness septum and antero-septal region of left ventricle at was measured as 3 cm, which cause a subaortic obstruction. Histopathological examination showed irregularly arranged hypertrophic myocytes characterized with interstitial fibrosis. Toxicological examination was negative except 48 mg/dl of ethanol detected in blood sample. The death was attributed to the idiopathic subaortic stenosis caused by hypertrophic cardiomyopathy.

Conclusion: Hypertrophic cardiomyopathy result in sudden cardiac death by a number of mechanisms, which might be prevented through early diagnosis and appropriate treatment. Syncope, which might indicate cardiac pathologies, should be regarded as an important symptom particularly in young adult. As in presented case, since hypertrophic cardiomyopathy is a genetic disorder, family members of affected individuals should also be examined for early diagnosis.

PP-347

Application of FTIR Spectrocopy in forensic medicine and sciences

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Various physical, chemical, and molecular techniques to detect and determine the quantity and composition of a variety of compounds have been utilized in Forensic Medicine and Sciences. Among these, Fourier Transfer Infrared Spectroscopy (FTIR) takes place as a sensitive and accurate technique. Furthermore FTIR spectroscopy is largely applied to obtain the molecular fingerprint of compounds such as biological samples, drugs, fibers, plastic, rubber, liquids and etc. Thanks to these, for many years, FTIR spectroscopy has been used in many different fields of science. In recent years, number of application areas increased remarkably in parallel to the development of the spectroscopic methods. In this presentation we aim to discuss the basic principles of FTIR spectroscopy and its use in the areas of Forensic Medicine and Sciences.

In medicine, use of FTIR spectroscopy has become more common in pathology and clinical biochemistry, in particular. FTIR spectroscopy provides biochemical mapping which is highly useful to detect biochemical change in tissues and set a diagnosis. Similar to the living, biochemical and pathological changes of tissues and organs can be described in postmortem cases. A few studies dealing with postmortem changes in biological samples have been performed to find out postmortem metabolic processes and to evaluate postmortem interval by FTIR spectral differences. Furthermore, application of this technique on possibly injured tissues has been used for determination of cause of death, in the literature.

Since FTIR spectroscopy is basically used to detect the molecular structure/molecular fingerprint of compounds such as biological stains, drugs, fibers, plastic, rubber, chemical agents, soil, liquids and etc. it can extensively be used in crime scene investigation, forensic chemistry, soil forensics, forensic toxicology, forensic anthropology and many more fields of forensic sciences.

PP-348

Cytomegalovırus Enfection as a Cause of sudden death in New Born

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Background: Cytomegalovirus(CMV) is a member of herpes viruses family, which is one of the most common viruses cause congenital infections. Infection that passes through the birth canal and breastfeeding are usually asymptomatic. Deafness, motor and mental disorders come out in most of the living ones. In rare, interstitial pneumonia, hepatitis and developmental disorders can come out in infants. Identifying the infection, which causes sudden infant deaths, microscopic and macroscopic evaluation are important. The gold standart for diagnosing congenital CMV is isolation of the virus from infants, rapid cell culture techniques, PCR, pathological microscopic -macroscopic details and ımmunohistochemistry.

Method: In State Institute of Forensic Sciences, eight infants, with ages 15 days to 9 months were autopsied. Tissue sampling from organs were done by pathologist. H&E stained slides were prepared and evaluated with light microscopy.
Results: When H&E stained slides were examined by pathologist, we saw wide spread intertisial mononuclear inflammatory infiltrate in tissues of salivary gland, lung and kidney. Among this infiltrate, infected enlarged cells, which were ductus epithelial cells, tubular epithelial cells and lung epithelial cells, had intranuclear basophilic inclusion with clear halo around. Within cytoplasm of these cells, smaller basophilic inclusions can also be seen.
Conclusion: Numerous newborn deahts are unexplained and usually can't be find any cause. Vırus enfections shoud come to mind for these cases.

PP-349

Analysis of Blood Stains Extracted From Different Surfaces Using FTIR-ATR Spectroscopy

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Background: Blood stains are among commonly encountered physical evidences discovered at crime scenes and highly important for forensic investigation. These stains might be useful in terms of DNA-profiling, pattern analysis for crime scene reconstruction and timing of the crime by determining various features of the stains. On the other hand, the physical or chemical structural features of surfaces that the blood dropped on may interfere with blood and complicate its analysis, which might consequently cause misinterpretation of the crime scene. To the best of our knowledge there has been no study dealing with the interaction between blood and the surface that the stain was extracted. This preliminary study was aimed to determine the interaction between blood and the type of surface that the stain was discovered on, by analyzing blood stains extracted from different surfaces using FTIR-ATR (Fourier Transform Infrared-Attenuated Total Reflection) Spectroscopy.
Material-methods: Blood sample was obtained from a healthy adult and two drops of blood of 200 μl dropped on each of six different surfaces that would be available at a crime scene. Chipboard/wood, leather, glass, plastic, metal and ceramic tile were used as surfaces placed at normal room conditions. One of freshly dropped blood stains were immediately (at zero point) sampled and analyzed using Diamond FTIR-ATR Spectroscopy and the others left on the surfaces. At 7th day dried blood stains were analyzed by the same method. The FTIR-ATR spectra were recorded in the range of 4000–400 cm-1. From the obtained spectra the absorbance (Ax as the absorbance at wave x cm-1) ratios of major bands were used.
Results: Major bands selected for the evaluation were 3282 cm-1, 2932 cm-1, 1639 cm-1, 1537 cm-1, 1394 cm-1, 1455 cm-1, 1239 cm-1, 1170 cm-1. Absorbance ratios (A3282/A2932, A1639/A1537, A1394/A1455 and A1239/A1170) were used to exclude thickness effect as FTIR absorbance might vary with thickness of sample. At initial analysis, major bands were observed at 3282 cm-1, 1639 cm-1 and 1537 cm-1 and absorbance ratios were the same for all surfaces. At 7th day absorbance ratios for five surfaces were similar; however, plastic surface showed higher number of ratios compared to others.
Conclusion: Findings of this preliminary study suggest that physical and chemical characteristics of plastic are likely to more interact with the blood comparing to other surfaces. However, further studies with different time intervals and larger samples are needed to reach more accurate results.

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Evaluation of the Deaths Secondary to The Entrapment Under The Debris in Van Earthquake

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Background: An earthquake occurred on October 23, 2011 at 13:41 in Van city of Turkey. The epicenter of the earthquake was Tabanli, which is 17 km away from Van city center and according to Kandilli Observatory and Earthquake Research Institute the magnitude of this earthquake was measured 7.2 on the Richter scale. The aim of this study was to evaluate the deaths secondary to the entrapment under the debris following the earthquake, which was one of the largest on the scale in the country's history.
Methods: Corpse external examinations / autopsy reports arranged by Van Attorney Generalship in the city center were evaluated retrospectively. Deaths secondary to the entrapment under the debris in earthquake were analyzed. Deaths which had occurred in the counties and villages and the cases whose death certificates had been arranged in the hospitals could not be included in the study. All the cases were analyzed according to gender, age, death place, regions and characteristics of the traumatic lesions, cause of death, and whether the autopsy had been performed or not. The statistical analysis was performed using SPSS 16.0 Packet Program.
Results: Total 51 deaths secondary to the entrapment under the debris were evaluated. Twenty seven cases (52,9 %) were females and 24 cases (47,1 %) were males. The age distribution was as follows: 7 cases (13,7 %) between 0–10 years old whilst 11 cases (21,6 %) between 10–20, 11 cases (21,6 %) between 20–30, 9 cases (17,6 %) between 30–40, 4 cases (7,9 %) between 40–50, and 7 cases (13,7 %) above-50 years old. Age could not be identified in 2 (3,9 %) cases. The causes of deaths were as follows: head trauma and visceral organ laceration in 30 cases (58,8 %), mechanic asphyxia in 14 cases (27,5 %). Seven cases (13,7 %) were rescued alive and the cause of death in them was crush syndrome and related complications. All of the cases have occurred in houses or workplaces.
Conclusion: Crush syndrome results from the rhabdomyolysis secondary to the trauma and presents with several symptoms and signs. Most important component is acute renal failure, which is also the main reason of death. Forensic medicine specialists should not disregard the crush syndrome in traumatic deaths, especially if the trauma is secondary to the entrapment under the debris following an earthquake.

PP-351

A decade retrospective study of homicides in lisbon - 2001–2010

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This study is a retrospective research examining cases of legal medicine autopsies conducted on the Pathology Service in the Instituto Nacional de Medicina Legal e Ciências Forenses, Delegação Sul (INMLCF-DS). All files that listed "Homicide" as the manner of death were reviewed for the years 2001 through 2010. Only the autopsies reports and police records registered in Lisbon were considered. In the 10-year period from January 2001 to December 2010, 407 homicides cases of our interest were autopsied in the INMLCF-DS. The present study was undertaken to investigate the characteristics associated with the pattern of homicide in Lisbon and through the number of cases, compare it with other European capitals.

From each autopsy report the following information was recorded: age, gender, and nationality, autopsy justification, body injuries, post mortem blood alcohol concentration and presence of drugs.

From the police records we included the method of homicide, local where the homicide took place, time and date, the circumstances of the homicide and the relation between the victim and offender.

PP-352

Railroad train accident: homicide or suicide

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Background: In many complex situations, forensics must be aware to ovoid wrong diagnosis especially in railroad train related death.
Methods: we report an autopsy case about a traffic railroad death in which a suspect wound has been revealed and raise the eventuality of homicide death.
Results: It's about a 39 year old man, known as an illegal monuments merchant who had recently a depressive humor through professional problems. He has been found died on the train rail.
A forensic autopsy has been practiced showing essentially:
_ External exam: an oval left subclavicular wound measuring 3,2 cm x 2 cm surrounded by a superficial parchment abrasion.
_the autopsy: a thoracic and abdominal organs dislocation.
The aim's discussion is: had he commits suicide or has he been laid on a train tracks after been assaulted with a stabbing weapon?

The description of the wound has revealed a double wound's ends; one sharply-pointed and a rounded end in the opposite extremity, some flanges between the wound's edges, a parcheminent abrasion surrounding the wound remembering a mechanical object mark imprinted in superficial bruising on the thorax and the absence of intracorporel marks evoking a cutting weapon.

This description indicates that a blunt and trenchant object was responsible of the wound and probably belongs to the mechanical parts of the train.
Conclusion: An advanced study of these complex wound by the forensic can solve heavy problems.

PP-353

Pericardial effusion and fibroplastic parietal endocarditis of the right ventricle in elbw infant with total parenteral nutrition: an exceptional case without necroscopical evidence of atrial wall transfixation or erosion

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We report the case of a female infant born at 30 weeks+4 days of gestional age. Delivery was performed by cesarean because of fetal distress and maternal fever in a triplet pregnancy with a previously regular course.

Neonatal weight at birth was 975 g (Extremey Low Birth Weight, ELBW), Apgar Score was 8 at 1' and 9 at 5'. Initial treatments included CPAP (continuous positive airway pressure) and positioning of umbilcal venous catheter for TPN (total parenteral nutrition), substituted with a PICC (peripherally inserted central catheter) after three days; correct positioning of the catheter tip was confirmed by chest radiography.

At day 13, after kangaroo mother care, the baby showed sudden desaturation, cyanosis, tachycardia and gasping. Cardiopulmonary resuscitation was immediately commenced while echocardiography revealed pericardic effusion and asystole. The patient died after 50 minutes without any cardiac response, despite drainage.of 10 cc of milky fluid from pericardium.

At post-mortem examination pericardium contained poor quantity of turbid fluid in absence of any right atrial wall perforation. Histological findings showed interstitial pneumonia in severe lungs immaturity and a focal area of fibroplastic parietal thrombotic endocarditis of the right ventricle.

Pericardial effusion is a well known complication of central venous line for TPN. In Literature the pathogenesis is mainly referred to atrial wall perforation by catheter migration or erosion of endocardium/endothelium due to hyperosmolar fluid jet.

In this case the production of pericardial effusion in a well sited catheter without any rupture or erosions, suggests a third way of production of this life-threatening complication, as a sort of trasmural diffusion across the thin layer of atrial wall or cava endothelium.

Anyway the final cause of death has probably to be referred to cardiac tamponade, because cardiac activity showed no recovery at all, even after drainage.
Diagnostic criteria for tamponade are mainly based on altered cardiac contour and on changes of ventricular size and flow velocities, but such criteria are unavailable when cardiac activity is absent.

This case indicates also the importance of implementation of instrumental monitoring over time; review of Literature shows that fixed serial control is useless to prevent such fatalities; the possibility of controls in specific moments like after considerable changes patient's position we be discussed. Finally we believe that the exceptional nature of the case and the extremly rapid development of the events permit to exclude any malpractice aspect chargeable to medical staff.

PP-354

Suicide with a hand-grenade in post-conflict Kosovo

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Background: The use of explosive devices as a tool of suicide is very uncommon, when this is not related with a terrorist activity, so called cases of suicide bomber.
Hand grenades are not ordinarily available in civil context, excepting post-conflicts area, like Western Balkans.
Method: We present a case of suicide happened in Kosovo in a village in the Skenderaj/Srbica area (Mitrovicë/Mitrovica District) committed using a hand grenade.
After a detonation the Kosovo Police was called and the demining team (bomb squad) of the Kosovo Special Unit scanned the scene.

The Forensic Unit of Kosovo Police found a dead man (55 y.o) in the cellar of his house; on scene, near the body, parts of an explosive device were found.

The external examination on site revealed the missing of the left hand and at the left side of the trunk presented extensive lacerations of the thoracic and abdominal cavities, associated with partial evisceration of abdominal content. Burns and black residues were visible on the wound's margins and on the clothes' remains.

The medical history discloses some years before a stroke attack, with residual neurological deficits on the right side.
Results: In the cellar no other explosive devices and materials were found. At medico-legal autopsy multiple internal injuries and femoral bilateral fractures were found, but the most relevant findings were the heart explosion and a thoracic aorta laceration.
Conclusions: When death is correlated to the use of explosive devices, hand-made or not, it is important to collect and analyze all evidences at death scene and during autopsy to differentiate a real suicide from a bad handling of some explosive materials, especially in recent post-conflicts countries, where the forensic approach in the interpretation of evidence must be particularly careful.

In this case it was important to evaluate also the concrete possibility to activate a hand grenade with suicide intent, by a person with right hand impairment – neurological deficit subsequent to an old stroke.

PP-355

The differential diagnosis between self-inflicted and non-self-inflicted, suicidal and homicidal sharp force injuries: evidence from a statistical analysis

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The differential diagnosis between self-inflicted and non-self-inflicted, suicidal and homicidal injuries is difficult - or impossible - in many cases and, above all, cannot be made on the basis of information obtained solely from the autopsy or the medico-legal clinical examination. It is crucial to integrate the data obtained from the examination of the body with those derived from clinical documentation, crime scene inspection and information gathered from friends, relatives and witnesses. Is generally accepted that is necessary to consider the following elements: number, location and orientation of injuries, victim's and/or perpetrator's handedness, anatomical location of wounds, tentative wounds (hesitation marks), defensive wounds, victim's clothing lesions.

The purpose of the present study is to analyze the differences between self-inflicted and non-self-inflicted, suicidal and homicidal sharp force injuries. In order to achieve this goal, a review of literature was conducted by searching on PubMed. The research yielded 568 potentially relevant articles. After excluding via title-screening the non-relevant papers, all abstracts were reviewed and the articles meeting the inclusion criteria underwent a full-text review. All the following parameters were tabled: number of cases, gender, age, localization of the injuries, number of injuries, presence of defense wounds, presence of hesitation marks, clothing injuries, toxicological data, previous psychiatric history, previous suicidal attempts.

The data were statistically analyzed and compared with those available in the medico-legal literature.

PP-356

Gastromalacia: the importance of its exact nosography and medico-legal implications

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Gastromalacia is a post mortem artifact and consists in the autolysis of gastric tissue that can culminate in gastric perforation. It appears as a slimy brownish black disintegration of the gastric fundus, near the gastroesophageal junction, with release of the stomach contents into the peritoneal cavity. It can occur as early as 20 hours after death. It has been observed more frequently in association with poliomyelitis or associated with intracranial disorders of various types.

A woman of 59 years, went to the emergency deparment at the Hospital of Rome because he suffered from the previous evening, vomiting, diarrhea and abdominal pain. The patient was a smoker, not taking medications and was free of major diseases. The blood pressure was found to be 120/70 mmHg. The laboratory tests disclose a modest neutrophilia (8.7 K / mcl), a moderate rise in blood glucose (184 mg / dl) and a slight hypertransaminasemia (GOT 59). The patient was treated with Plasil (1 vial), Buscopan (2 vials) and ranitidine (1 vial) intravenously. She was discharged with a diagnosis of gastroenteritis and prescription of fermenti lattice and antiemetics.

The next day the patient at the persistence of abdominal symptoms, she went back at the same hospital. On entering the patient appeared lucid and appeared agitated and abdomen poorly treatable and rhythmic cardiac activity. Blood tests showed leukocytosis with neutrophilia, increased erythrocyte and platelet alteration indices of coagulation, renal, liver and pancreas, hyperglycemia, hyperkalemia and an increased inflammatory markers. After 10 minutes the patient had loss of consciousness and massive food vomiting. Despite cardiopulmonary resuscitation, the patient died.

A forensic autopsy was performed 48 hours later. The rupter of the gastric fundus was observed over a length of 8 cm with leakage of gastric contents into the abdominal cavity. There was no macroscopic evidence of peritonitis and the stomach wall adjacent to the rupture site was markedly thinned. Histological examination of a section of gastric wall from this area showed advanced autolysis without evidence of an inflammatory reaction.

The cause of death was established to be due to cardiac failure by severe electrolyte imbalance due to diffuse enterocolitis.

Gastromalacia is not directly related to the cause of death, but misinterpretations and wrong conclusions could lead to charges being brought to other fellow doctors who are in fact not guilty of any wrongdoing.

PP-357

Subarachnoid hemorrhage and carbon monoxide exposure: accidental association or fatal link?

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Hemorrhagic lesions after carbon monoxide (CO) exposure or acute poisoning are rarely reported in literature. Usually, structures having a particularly high susceptibility to hypoxia are involved, such as basal ganglia, globus pallidus, or white matter.

We report a case of a 32 year-old man found dead inside his partially burned car. An autopsy was requested. At external examination, the main findings were: cherry red hypostasis distributed according to gravity; lips, tongue, teeth and nostrils covered in soot; neither burn injuries nor external signs of trauma on body. At autopsy, a subarachnoid hemorrhage (SAH) was observed. Histology confirmed the presence of diffuse subarachnoid hemorrhage and soot particles in bronchi and bronchioles, suggesting vital smoke aspiration. Toxicological examination of blood, urine and hair revealed carboxyhemoglobin (COHb: 30 %); cyanide and commonly abused substances were absent.

After discovering the SAH, we excluded any possible site of bleeding. Interestingly, COHb was 30 % and similar levels, even if lethal only in elderly or in cardiopathic patients, caused hemorrhagic leukoencephalopathy in a 20-year-old woman. Thus, although the cause of death is certainly SAH, it is not possible to ignore the presence of CO and its potential effect on vascular endothelium, involving cerebral vasodilation and oxygen radical damage. In fact, exogenously administered CO relaxes isolated blood vessels. After the inhalation of CO and the formation of COHb, cerebral vasodilation occurs. Hemorrhagic outcomes after acute CO poisoning have been described. The mechanism leading to cerebral tissue damage is supposed to be a consequence of loss in micro vascular integrity and direct vasodilator effects of CO on cerebral arterioles.

The investigators concluded that the man was probably sleeping in his car. An electrical short circuit in boot of the car ignited the fire, the smoke spread from the boot to the entire vehicle and the man began inhaling CO. While CO levels increased, the SAH would have occurred. Although we cannot certainly exclude that this was a mere coincidence and that SAH was secondary to rupture of a vascular malformation not seen autoptically, our hypothesis is that CO may have played an important role in the pathogenesis of the SAH, both causing or facilitating, due to its vasodilating effect on cerebral endothelium. Unfortunately, in the literature only few data regarding animal experiment are available, whereby further studies are necessary to evaluate the physiopathological role of CO on human endothelium and its exact influence in the pathogenesis of SAH.

PP-358

Die under the bed: a return into the den

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People who live alone, especially elderly, are more likely to die at home without medical support or even without human assistance only.

We report a case of a 89-year-old man who was found dead at home. In the apartment, the police found the bedroom's door opened. Just inside the room, lying on the floor, there were the slippers and the trousers. The bed was made and a corner of the duvet was reversed. Under the bed base there was the body of the man, supine on the floor in a pool of blood. To appreciate its exact position and to identify other traces of blood, every layer from the duvet to the mattress was carefully removed and inspected. The body was observed through the mattress frame: he was supine, the head was in contact with the wall, the limbs were extended. Around his head there was a dried blood pool and on the wall dried blood splash and dripping which came out from man's mouth. The man was wearing a sweater, a shirt, pants and socks. The abdomen was uncovered and presented the typical putrefactive green color. After removing the bed base, the presence of maggots in the oral cavity was noticed. In the apartment a certificate compiled by the man's personal doctor was found. In the pathological anamnesis, the following pathologies in this exact order were reported: chronic obstructive pulmonary disease, gastritis, prostatic adenomectomy, chronic renal insufficiency, depressive syndrome, gallbladder lithiasis and urolithiasis.

From the psychological point of view, although it is reasonable that this behavior can be explained by the presence of a diagnosis of Major Depressive Disorder with psychotic features, an ethological perspective may be proposed. It is instinctive for most animals to hide and find solitude when they are very sick, injured, or dying. There are two main reasons for this. First of all, the animal may want to find a safe place to hide and recover. The second major reason is to protect other members of the herd, family, or whatever group the animal may be a part of. In the wild, especially, an injured or sick animal is a major threat to the group as a whole. This behavior can be seen often in animals such as cattle and elk. Animals have an instinctive urge to isolate themselves when sick or hurt and in doing so protect the other members of their group.

PP-359

Infective endocarditis vs non bacterial thrombotic endocarditis: overview and comparison

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Endocarditis is a common clinical problem. The term endocarditis refers to an inflammation of the endocardium that affects mainly, but not exclusively, heart valve leaflets. The inflammation may be caused by infection i.e. infective endocarditis, immunological factors or directly by turbulent blood flow that may mechanically damage the endocardium i.e. non-bacterial thrombotic endocarditis.

Infective and non-infective endocarditis, although have different etiology, pathogenesis and pathology, there are many similarities that exist. We attempt to illustrate similarities and differences of the two conditions based on review of the literature and to analyze the predisposing and underlying factors in order to identify the primary determinants and the population at risk.

The difference in the size of the reference populations is due to the different incidence of the two types of endocarditis described in the literature and largely confirmed by this study.

From the results of our study, we can reasonably conclude that the population at risk for non-bacterial thrombotic endocarditis is older than infective endocarditis and predominately females. Preexisting valve damage is a very important factor for both types of endocarditis. Therefore, particular attentions has to be paid to patients with preexisting valvular damage especially when associated with neoplastic events, hepatic cirrhosis and/or chronic kidney failure.

PP-360

Myocardial bridging and sudden cardiac death in two patients with gastrointestinal symptoms: association or causation?

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Myocardial bridging is an congenital coronary abnormality occurring when a band of cardiac muscle overlaps a segment of an epicardial coronary artery. The anatomical course of the artery leaves the epicardial adipose tissue and penetrates within the myocardium: the term "tunnelled artery" refers to the tract beneath the muscle. Myocardial bridges have long been considered a normal anatomical variant. Recently they have been classified in benign or pathological variant, according to the intra-myocardial length and depth. Pathological myocardial bridges may, in some cases, lead to ischemia, infarction, malignant ventricular arrhythmias, atrioventricular block and sudden cardiac deaths. We report two cases of sudden cardiac death in patients with post-mortem finding of myocardial bridging suffering from gastroenteritis.

A 42-year-old man with a previous diagnosis of colonic diverticulosis was taken to the emergency department because of persistent fever. After two days of hospitalization he died suddenly. At post-mortem examination, the cause of death was identified in a sudden cardiac death in presence of myocardial bridging triggered by a severe diverticulitis.

A 29-year-old man was visited at home in the evening because of fever and diarrhea. The following morning he was found dead. At post-mortem examination, sudden cardiac death in presence of myocardial bridging triggered by severe electrolyte imbalance due to diffuse enterocolitis.

According to the classification based on intra myocardial length and depth, the first case should have been considered benign, while the second a pathological variant. Nonetheless, in the first case, the myocardial bridging has not been just a normal anatomical variant but we hypothesize it was the pathological substrate capable of contributing to death.

In conclusion, our intent is to underline that forensic pathologist should carefully evaluate the autoptical finding of a myocardial bridge. In fact, even if its measurement could prompt to classified it as benign, it could still be able to cause death in specific conditions.

PP-361

Fatal Pulmunary embolism during a corporoplasty for Peyronie's Disease

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Induratio penis plastica or Peyronie's disease is an acquired benign connective tissue disorder of the penis. It is characterized by the development of fibrotic inelastic plaques on the tunica albuginea surrounding the penile corpora, resulting in different degrees of penile bending, narrowing or shortening and sexual dysfunction. It is a relatively common disorder among men, with a reported prevalence of 3 % to 8 %. Men with significant penile curvature and satisfactory erectile function are often treated with plaque incision or excision and grafting. We describe a case of 61 year old man suffering from Peyronie's disease who underwent a surgical intervention of corporoplasty according to Nesbit technique and suddenly died. Patient's clinical history began approximately 18 months before, when penile retraction and marked deformity made the achievement of erection, and consequently sexual intercourse, impossible. At urological clinical examination, the most important finding was the presence of a fibro-calcific plaque localized at medium and distal shaft of the penis. During surgical intervention O2 saturation decreased until 80 %, BP was 80/50 mmHg, HR 50 bpm. Despite supplying 100 % O2 and atropine 1 mg, the patient developed asystolic cardiac arrest so cardiopulmonary resuscitation was performed followed by defibrillation at 300 J twice and intra cardiac adrenalin injection. The patient was declared dead and an autopsy was requested. The autopsy revealed: cyanosis of the face; a surgical suture at penis level; normal in volume and shape heart, subendocardial circumferential pallor extending to mesocardial layer in anterolateral left side associated with moderate dilatation of right side; intramiocardic course of left anterior interventricular (descending) coronary; congestion localized at the bases of lungs; hyperemic tracheal and bronchial mucosae; erosive petechial gastritis with 300 cc of digested blood; edematous encephalon. At histological examination, pulmonary edema and diffuse thrombosis with intraalveolar erythrocyte extravasation were observed. The cause of death was established to be due to pulmonary microembolism in periprostatic venous plexus thrombosis.

The thrombosis in periprostatic venous plexus is rarely reported in the literature and its capability of causing a fatal pulmonary embolism has been criticized. Moreover this complication is not between those reported in the literature as frequently occurring in the intervention practiced in this case. In this paper we aim to evaluate the sequence of pathologic events that caused the death and also to analyze the possible influence of the intramyocardial course of the anterior descending coronary artery in the pathogenesis of the death.

PP-362

About 26 cases of hydatid disease revealed by sudden death

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Hydatid disease is a zoonotic infection by the tapeworm Ecchinococcus with 2 – 3 Million cases that occur worldwide globally. The cysts are often discovered during routine checkup or investigation of nonspecific symptoms or following a complication including sudden death. We report a 26 cases of hydatid disease revealed by sudden death. The objective is to study the epidemiological criteria, circumstances and autopsy findings of death secondary to hydatid disease in the north of Tunisia.

The sex ratio of the subjects (M/F) was of 1,6. The mean age was 31 year-old [9 – 61]. 65 % of the subjects lived in rural places. 17 of the cases occurred in the victim's place, 5 victims died after a heavy exercise and in 2 cases death occurred immediately after trauma. At autopsy, 91 % of the cysts were found in

the liver, two in lung, one heart cyst and one cyst of the left renal artery wall. In 16 cases, cysts were ruptured. In 3 cases, death followed a septic state and in 2 cases it followed an acute respiratory failure. Death was attributed to anaphylaxis in 17 cases.

PP-363

About a case of criminal maritime disaster

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The ship wrecks are usually classify in accident mass-disaster that make the investigations always be directing on searching technical failure or human error.

Forensic research is unfortunately rarely done.

Through a real situation of a wreck trawler with height fishermen on board who had been missing since they had leaving the port, we have been able to highlight through the autopsy of the captain that it was in fact a criminal wreck a month after the facts.

Fire arms injuries on captain's head and dilapidated injuries with boat's propeller were found that made be change the official and media campaign accident thesis.

PP-364

Forensic approach of the differential diagnosis between partial dismemberment and stab wounds

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We will try through our practical experience to explain the importance of thorough forensic investigations notably in some criminal cases especially complex when the conclusions of the autopsy report had lead to another penal qualification in criminal matter.

In fact, penal qualification have been done so hastly by judicial authorities without waiting sometimes the results of forensic investigations that can be take a while.

The real file that we will presente, demonstrate that the new mutations of violences require to reconsider our judicials and legal medicines practices.

PP-365

A confusing extensive postmortem abdominal hemorrhage in a drowning victim. Homicidal or accidental? A case Study

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The current case study describes the death of a young female due to drowning. Police investigations affirmed that it was accidental and witnessed by her companion in the swimming pool. The forensic examination and autopsy performance raised the suspicion of a crime when the dissection revealed extensive hemorrhage in multiple abdominal organs (pancreas, kidney, spleen and intestine) and was not in agreement with the history given by the authorities and witnesses. Her friend was interrogated accordingly. He confessed that he found the dead body and tried to resuscitate her by pressing vigorously on her belly for about 10–15 minutes. A full description of the case and the confirmatory microscopic will be shown in the poster which was the clue for criminal investigators to assure his innocence.

PP-366

Limitations of Organ Donation on Judicial Cases and Problems Confronted in Autopsy

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Organ transplantation is of the most important services of modern medicine to the humanity. In Turkey, 2502 kidney, 695 liver, 86 heart, 18 heart valve, 3 lung, 29 pancreas and 3 intestine transplantation were performed successfully in 2010. In 2009, 44016 people took an organ donor card. According to the data of past 4 years, 199 cadaveric, 1928 living organ transplantation performed per year. Besides, there were 17812 people waiting for kidney, 2000 for liver and 5076 for corneal transplantation in 2009.

In Istanbul 12016 cases were referred to Council of Forensic Medicine Morgue Department in last three years for determining the cause of death. Only the 346 (%2,8) of these cases undergone organ harvest where only the 35 (%0,3) of them were donors of internal organs, remaining were only cornea donors.

Aim of this study is to determine the problems, during these autopsies and to determine what to do for increasing the number of cadaveric organ donors among autopsy cases. We searched the autopsy case archive of Istanbul Morgue Department of Council of Forensic Medicine, between the years 2009 and 2011, to reveal the number of organ donors among autopsy cases and find out the judicial problems that we had during autopsies.

In non of the cornea donor cases (n: 330) conjunctiva or sclera inspection findings were not reported, where the 47 of them (% 14,2) were asphyctic deaths. On the other hand cornea harvesting could hinder toxicological screening of vitreous humor.

Twenty of 35 organ donor cases were died because of blunt trauma due to traffic accident after transferring to a hospital. Three of 35 cases were firearm injury cases, 2 of them were stabbing cases, 4 of them were suspicious battery cases, and 5 of them were fatal fall cases. Only one case was died because of high dose insulin administration. In 5 cases Morg department could not be able to determine cause of death because of the lack of the information before autopsy procedures.

In the clinical survey of a suspicious injury case, prognosis could be consultated with a Medio-Legal Expert. This would provide to draw a proper road map which could assist whole organ harvest team and also to the prosecutor. A MedicoLegal Expert could attend to the organ harvest team and make initial investigations about death and collect some of toxicological screening samples. Also Medicolegal expert could observe whole organ harvesting process.

PP-367

From back pain to fatal hematemesis - a case report

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Introduction: The most frequent pathologic entities concerning the aorta artery that can be fatal are aneurysms and dissections. Aortic aneurysms generally expand asymptomatically, but they can dissect the artery or rupture into a body cavity without warning. This is a life-threatening

scenario even if the victim receives prompt medical emergency care. Thoracic aorta aneurysms are not as common as abdominal ones. They can cause a dull pain or dysphagia, thus taking the victim to a health care setting but, if the symptoms are mild, they can be overlooked and have potentially fatal consequences.

Objectives: To contribute to the study of sudden cardiovascular deaths through the unusual presentation of an unknown thoracic aortic aneurysm.

Case: The subject was a 57 year old male. According to his son, he had been complaining about "back chest pain" for the last four months, but refusing to seek medical attention. He had also been eating less for undisclosed reasons. One day, while at home with his wife, he began profusely vomiting blood and lost conscience, dying at the scene. The subject had no previously known medical history.

The medico-legal autopsy was performed at the North Branch of the National Institute of Legal Medicine. External findings consisted of blood residue in the mouth. No signs of trauma were observed. Internal findings included a large fusiform aneurysm in descending thoracic aorta, measuring 18x10x7 cm, partially filled with a mural thrombus, and communicating with oesophageal lumen through a fistula, measuring 3x2 cm; stomach containing 1,5 litres of liquid blood and blood clots; erosion of the anterior aspects of the 6th and 7th thoracic vertebrae, adjacent to the aneurysm. The toxicological screening was negative for ethanol or drugs.

Discussion and conclusions: This case is paradigmatic that self-undervaluation of long-term, albeit mild symptoms and refusal of seeking medical care can have death as a disastrous consequence. Nowadays, thoracic aorta aneurysms can be easily diagnosed, even in a primary care setting. Although with considerable risk, even with more modern endovascular approaches, they can be surgically managed. This death could have been avoided if the victim had looked for medical assistance at the time of the initial symptoms.

PP-368

Self immolation in south of Tunisia

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Background: Deliberate self-inflicted burn is rare in high-income countries, but is reported more frequently in low- and middle-income countries. In Tunisia, the rate of self immolation, globally stable in the last years, had significantly increased in 2011, mainly after the political revolution of January 2011.

The objective of this study was to identify the epidemiologic features and risk factors of self-immolation in the south of Tunisia in order to understand this phenomenon and try to develop effective intervention programs in response to its recent remarkable increase.

Methods: It is a retrospective observational study condacted at the forenscic unit of Habib Bourguiba Hospital in Sfax, Tunisia, from January 2003 to december 2011. 41 self-immolation cases were recorded in this period.

All cases were reviewed for demographic variables and health related aspects including age, gender, living area, marital and employment status, mental illness history, previous suicide attempts and trigger factor. We also report the most important autopsy findings.

Results: Demographic information revealed that self-immolation ranges in the fifth place of all methods of suicide used in the study period. The number of cases ranged between 1 and 5 cases per year between 2003 and 2010. Only in 2011, we recorded 14 cases.

Of all our cases, 80 % were male. The mean age was 32 years. Geographical features of self-immolation indicated that the self-immolation rate was higher in rural areas. In most of the cases, the victims doused themselves in inflammable fluid in public.

Unemployment was the most important risk factor reported. Social oppression and disadvantage played an important role for increasing the rate of self-immolation.

According to the autopsy findings, the median total body surface area burned was 82.5 % (range30-100 %). All the victims had soot in their respiratory tracts. Soot in the respiratory tracts was associated to soot in digestive tracts in 10 cases. Blood had a mean 21 % carboxyhemoglobin concentration.

Conclusion: This study suggests that self-immolation is a complex phenomenon with multiple causes, directly associated with low socio economic status.

Despite the religious context strictly forbidding suicide, this phenomenon reached epidemic proportion and became a significant public health problem in our country since the revolution of January 2011. Self immolation is now considered as a form of protest against political and social discrimination.

Various intervention options should be discussed to prevent it. During the long-term, programs to and strategies should focus on social interventions.

PP-369

Complicated or Unplanned Complex Suicide: A Case Report

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The phrase "Unplanned complex suicide" explains the situation where the victim tried another suicide method and succeed after an unsuccessful attempt for suicide. "Complicated Suicide" is a quite different phenomenon that characterized with the unintentional way of death, arises out of the suicide method.

A 48-year-old woman, with judicial information of fatal fall from height from the balcony of her apartment, referred to the Morgue Department for determining the cause of death. On the external examination in addition to traumatic findings due to fall from height, ligature mark has been detected on the neck. In the autopsy there were severe traumatic changes that lead to cause of death but also there were findings of a completed hanging. According to the autopsy report ligature mark was convenient with free hanging. At the crime scene report an antenna cable, tied to the door handle, was found in the balcony. And the free tip of the cable found at the inside of the balcony. There were o struggle findings either on the deceased body or at the crime scene. The cause of death was determined as the common effect of hanging and trauma.

When performing autopsies of suicide cases, it is hard to determine the origin if it was a suicide or homicide. Only with autopsy findings it should not be concluded either as a suicide or homicide. Especially in complex suicide cases and in complicated suicide cases it is very important to get and read carefully the crime scene report. And then it would be possible to drive the investigation on the right way.

PP-370

Study of verification and analysis of probable doctor's clothes contamination and its relation with the microorganisms found at the coat worn by this practioner, at the hospital area of Belo Horizonte/Brazil

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Background and objectives: The health professionals are easily exposed to risks during their professional practice. The lack of caution while preventing diseases, with the inappropriate use of personal protective equipment (PPE), is one of the most important causes that induce the rise of these risks to the health professional, to the patient and to the society, considering the PPE as a possible source for cross infection. The main objective will be to establish the physician's clothes capacity of being a vehicle of contamination, not being this a problem only related with the physician's coat.
Methods: The research was made with nine physicians at Santa Casa, HOSPITAL DAS CLÍNICAS e SEMPER hospitals of Belo Horizonte-MG. It was made an in-print of the internal part of the front leg's pockets of the volunteers at the bacterial culture plates with Agar Mueller Hinton and Agar Sabouraud environments, followed by the incubation of the bacterial environment at the laboratory stove, and of the fungus environment at room's temperature. The plates were identified differentiating the physicians that were arriving at the hospital from the one who were leaving the hospital. After the microbial growth, it was made the GRAM staining procedure of some of the bacterial colonies. The species found in this study were compared with the ones found at physicians coats identified in previous studies which were published at the scientific literature. Moreover, it was made a comparison between the microbes found in the cloth of the physicians entering with the ones leaving the hospital.
Results and discussions: Cladosporidium, Penicillium and yeasts Staphylococcus aureus and Staphylococcus sp. were the microbes found in the plates identified as "arriving at the hospital"; yeasts Staphylococcus aureus, Staphylococcus SP and bacillus of the family Enterobacter were found in the plates identified as "leaving the hospital". The difference between the microbes found at the clothes of the physicians who were entering the hospital and the ones who were leaving was statistically irrelevant.
Conclusion: The presence of potential pathogenic microorganisms at the physician's clothes, as the S. aureus and yeasts, was frequent, indicating that the doctor's clothes also can be a contamination source, just as the already proved coat.

PP-371

Contamination of physicians' stethoscopes who works in hospital area: medical-forensic implications

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Objectives: Analyze quantitatively and qualitatively the microbiological contaminations in stethoscopes' diaphragms used by physicians, verify the efficacy of antisepsis performed with 70 % ethanol and stimulates medical discussion of related legal implications.
Methods: Using the method in print, cultures of 70 private stethoscopes of randomly selected physicians in Belo Horizonte, Minas Gerais - Brazil, hospital area were taken, between March and November 2010. The cultures were made on Müller-Hinton and Sabouraud agar plates and were incubated for appropriate development of bacteria and fungi. This procedure was performed twice in each stethoscope, one before and another after 70 % ethanol cleaning. For identification and classification of each isolated colony were performed standardized tests and, to bacteria, antibiogram.
Results: It was not found any fungi colonies in the samples. Before the antisepsis with 70 % ethanol, it has been isolated 182 different types of bacterial colonies. 98,6 % (69), of the 70 surveyed stethoscopes, were contaminated at least with one specie. Identified species included coagulase negative Staphylococcus (64,3 %), being 41 % Amoxicillin resistant; Staphylococcus aureus (4,4 %), 50 % Chloramphenical resistant; Enterobacteriaceae (2,1 %), 100 % Ceftazidime resistant, and gram positive bacillus. After the antisepsis, it was isolated 62 distinct types of colonies, that means 66,1 % less contamination than found before, and 22 samples (34,3 %) did not have any kind of bacterial growth. Also, it has been found coagulase negative Staphylococcus (62,9 %) and the antibiogram indicated that 30,8 % of these were Amoxicillin resistant.
Conclusions: Stethoscopes can be vectors in the dissemination of nosocomial infections, duo to high incidence of bacteria on the diaphragm. Frequently, antibiotic resistant bacteria were isolated. It can result in medical-forensic irreversible implications for the physician and his patient's health. It is clear that the adherence to regular stethoscope disinfection practices is fundamental, and the 70 % ethanol proved to be a powerful alternative.

PP-372

Atypical lymphoid infiltration of the heart as a random autopsy finding

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We report the case of a 68 years old male that was referred to the Athens Forensic Service for autopsy after sudden unexpected death. The patient was admitted with coma, in a major Athens hospital with main symptom a "discomfort" he was experiencing at home, he was treated for several hours and subsequently he passed away. The corpse was sent for autopsy and tissue samples were collected for histopathological examination, with the autopsy revealing as probable cause of death the perforation of a duodenal ulcer. The main findings of the autopsy were the perforation of the duodenal ulcer, a tumor of the heart, a tumor of the thyroid and finally a tumor of the left kidney. The tissue samples were sent for histopathological examination in the Department of Forensic Medicine & Toxicology of the University of Athens. The results revealed infiltration of the myocardium, of the thyroid and of the external surface of the left kidney by a malignant neoplasm with characteristics of multiple myeloma. Though a thorough study with extensive use of immunohistochemistry was performed, no definitive result, for reasons of classification of this neoplasm was possible to extract.

PP-373

Necrotizing fasciitis in a female due to rectal trauma by a foreign object: A case report

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Our case consists of a 34 year old female, who was admitted in a hospital complaining about fever, diarrhea and vomiting. The patient was diagnosed with soft tissue inflammation (at the time thought to be perianal fistula) and was subsequently led to the operating room for surgery. During the surgery, a second diagnosis was reached, that of Fournier' s gangrene, thus leading to surgical debridement of the affected area. The patient remained under general anesthesia and was transferred the day after to the ICU of another hospital. At the second hospital surgical debridement was repeated several times and colostomy was as well

performed. During these surgical operations, a foreign body perforating the rectum was observed, it was in fact a piece of bone. The patient remained in the ICU for approximately 17 days and subsequently died. The corpse was then referred to our department for medico - legal investigation. The autopsy combined with histopathological examination revealed focal necrosis of the brain, the liver and the kidneys, as well as multiple inflammatory foci in the heart, the lungs, the abdominal wall and the uterus. The death of the patient was attributed to severe alterations of multiple organ dysfunction syndrome (MODS), due to sepsis.

PP-374

Two case-reports of unusual complex suicide

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Background: Suicide cases usually report a unique kind of lesion: either stab injuries, or gunshot lesions, or hanging, or poisoning, or precipitation and so forth. Sometimes, suicide victims perform a strange complex ritual involving several different self-inflicted lesions, to reach their purpose. Since the beginning of 2012, two very peculiar cases have come to the attention of the Institute of Legal Medicine in Milan.
Method: CASE 1: a 36-years-old transexual women was found dead in her home, with a knife stuck in the thorax and another stab injury beside the previous one. A pajama sleeve was tied tightly around the neck and the gas stove was open. At autopsy, the neck groove was depressed but there was no evidence of excoriation; both thyroid horns were fractured, with blood infiltration. Stabbing injuries involved the left lung, diaphragm, stomach and spleen. Toxicological analysis showed a small amount of alcohol (0.29 g/l) in the blood and the presence of benzodiazepines in blood and urine. Instead, the presence of carbon monoxid in cardiac blood was very low (2,7 %).In the gastric content there were chemicals such as methylpalmitoleate, ammonium laurate and so on, normally used in detergents, which she had presumably swallowed.
Case 2: The latter concerns a 49-year-old woman, who jumped from the sixth floor and was found dead on the sidewalk beside her house. Law enforcement officers found in her flat a farewell letter; a plastic chair on a table in the terrace, probably used to climb over the wall and reach the roof; an almost empty plastic bottle containing sodium hydroxide, and a kitchen knife on the roof. At autopsy the presence of multiple stab injuries in neck, chest and abdomen were found, causing a lesion to the jugular vein. The stomach contained 500 ml of a brownish-blackfowl-smelling liquid, conditioning the presence of a blackish mucosal surface and a hypertrophic plicature. However the cause of death were the multiple skeletal and visceral lesions due to the contusive mechanism of the fall.
Conclusion: Literature contains many case-reports of complex suicides: they account for 1,5-5 % of all suicides. In most cases a double-modality of combined suicides is described; three-modality ones are more rarely observed. We report a four-modality-combined suicide (described only once in literature), in which there is more than one deep stab wounds: even cases of multiple stab wounds in suicides are reported few times in literature.

PP-375

Medical legal implications of cardiac contusion: a case report of death due to cardiac conduction of system injury from a blunt chest impact following traffic accident

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Cardiac contusion, usually caused by blunt chest trauma, has been recognized with increased frequency over the past decades. Traffic accidents are the most frequent cause of cardiac contusions resulting from a direct blow to the chest.

Commotio cordis is a term used for cases of sudden cardiac death due to non penetrating chest trauma without evidence of underlying myocardial disease or injury. Contusion cordis has been reserved for cases of chest trauma where there is cardiac bruising.

Myocardial contusion is difficult to diagnose; clinical presentation varies greatly, ranging from lack of symptoms to cardiogenic shock and arrhythmia. Although death is rare, cardiac contusion can be fatal.

The Authors report a case of death due to cardiac conduction of system injury from a blunt chest impact following traffic accident.

The real case concern an young man dead in traffic accident. The man was not seat-belted in the retro passenger seat. External examination found a few bruises in the right tempora, and ecchymoses on anterior surface of right emithorax, a small contusion in the middle third of the sternum with hemorrhagic infiltration of the subcutaneous tissues, few bruises in the upper and lower limbs. The autopsy revealed a small area of subarachnoid hemorrhage in the left parietal region, contusion of left lung, hemorrhagic infiltration of the left intercostal muscles, hemorrhagic infiltration of tissue borne para-aortic and paratracheal in correspondence of the 7a- 8a - 9a dorsal vertebra.

Heart macroscopic examination showed punctiform ecchymoses on the posterior wall of the right atrium and in the left margin of heart and coronary atherosclerosis. The histological examination of cardiac conduction of system (CCS) showed hemorrhagic infiltration of atrioventricular node and His' bundle. Toxicological analysis revealed blood ethyl alcohol level of 2.05 g / l.

Although cardiac injury including contusion of the myocardium itself was not so extensive, it was presumed that arrhythmia was induced by the cardiac conduction system failure, which was considered to be the effective cause of death.

This report suggests that when the autopsy findings and toxicological examinations are inconclusive, the histological examination of cardiac conduction system is helpful for revealing the cause of death diseases of the CCS and improving the quality of forensic pathological diagnosis.

PP-376

A case of unexplained lesion pattern. Accidental or homicidal death?

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We present a case with a multiple pattern lesions, electric burns in the internal side of legs, thoracic ligature marks, three skull fracture zones, and with signs of manipulation of corpse position. The ancillary proofs included analysis of electric marks with SEM, and radiographic study (TAC).

The police investigation cannot conclude with any clear hypothesis but suggest the accidental etiology. The autopsy data allow us to explain the death by a homicidal etiology, but some questions need to be elucidated.

In the figure nº1 is possible see the ribs fractures and in the figures 2 and 3 the skull lesions

PP-377

Autopsy Cases With Multiple Accessory Spleens

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Accessory spleen is seen in more than 10 % of the normal population. It may be solitary or multiple. Apart from the main body of spleen, accessory spleen is the variation that is seen in omentum majus and minus, mesentery, thorax, gastric fundus and pelvis. On the fifth week of embryological development, the spleen primordium appears as a mesodermal proliferation in between the two sheets of mesogastrium. As the dorsal mesogastrium elongates, the spleen slides to the left and fuses with the periton on the posterior wall of the abdomen. In our study, 3 cases of accessory spleen that were seen in the autopsies that were performed by our department in 2011 are discussed. First case; on a 61-year-old male died of an acute myocardial infarction, in addition to the main spleen, 2 accessory spleens with the largest diameter of 7 cm. and 3 cm. were seen in the splenic hilum. Second case; on a 2-month-old male infant died of aseptic (viral) meningitis, in addition to the main spleen, 2 capsulated accessory spleens with the largest diameter of 0.4 cm. and 0.3 cm. were seen adjacent to the splenic hilum. Third case; on a 12-year-old male died of a compression between the elevator cabin and the wall, 3 accessory spleens with diameters of 2 cm., 2 cm. and 0.5 cm. were seen in the splenic hilum. Autopsy series have an important role for determination of the public incidence of the multiple accessory spleen that is detected incidentally.

PP-378

Fatal haemorrhage: the dark side of varicose vein rupture

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One of the most commonly reported chronic medical conditions is represented by venous disease, including varicose veins and chronic venous insufficiency (CVI). It is also a substantial source of morbidity in the United States and the Western world. Varicosis is found in 15–50 % of the population. Several risk factors associated to the development of varicose veins and chronic venous insufficiency or both are older age, female gender, family history, obesity and standing occupation. Small arteriovenous communications (AVCs) are an important etiology of varicose veins and stasis ulcers of the lower extremities. Haemorrhage from ruptured varicose veins of the legs can occur spontaneously or after a minor trauma. More frequent complications of varicosis include peripheral oedema of the ankles, skin ulcers and varicose eczema. On the contrary, in most forensic practices fatal haemorrhage from rupture of varicosis is a rare event. One case of fatal varicose vein rupture is reported. A 80-year-old man, was found dead in the bedroom of his apartment. Traces of blood were found in the whole room. The body showed typical signs of death due to exsanguination. A large pool of blood was found on the floor. The scene analysis allowed to evaluate the presence of small spatters of blood on the back of the left foot. An external examination of the victim showed a circular lesion linked to a subcutaneous arteriovenous anastomoses. Blood spatters investigations and circumstantial data allowed us to detect the cause of the breaking of the ulcer. In fact, the sock worn by the victim presented a circular blood crust that served as a "cap" on the skin lesion (ulcer). Analysis of the collected data showed that the old man, removing the sock, at the same time tore out the crust (cap) from the lesion. Other traumatic lesion was not found. In particular blood stain patterns analysis was performed in order to understand the origin and the location of venous and/or arterial bleeding. However, blood projected from ruptured varicose veins of the lower limbs may also result in a similar pattern of projected, disseminated fine bloodstains. In this case the cause of the haemorrhage was a small lesion of the skin of the left lower leg of the victim linked to a small arteriovenous communication. At first sight, fatal haemorrhage, with massive traces of blood, may be associated to the death scene related to a crime and focus primarily on a non-natural death.

PP-379

Death by ingestion of caustic substances: case report and review of literature

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Ingesting caustic substances represents a common event which may result in serious injuries of the gastrointestinal system. Severity of injury from caustic ingestion depends on the type of ingested substance: caustic burns are more frequently associated to acid ingestion and their severity depends on type, concentration, time of exposure and amount of the ingested substance. Acid ingestion may lead to early lethal complications (gastric perforation, massive metabolic acidosis) and long-term injuries such as pyloric stenosis.

Diagnosis and management in these patients can be very challenging, as both symptoms and oral injuries do not predict the outcome.

In this paper, we describe a case of phosphoric acid ingestion leading to death in a patient with depressive disorder; a literature review focused on diagnosis and management strategies is also presented.

PP-380

Macroscopic characteristics of hanging mark correlated with the suspension ligatures employed: results of a preliminary study

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Hanging is a form of death due to constriction of the neck when the force applied is derived from the gravitational drag of the victim's body weight. The vast majority of hangings are suicidal and only occasionally are accidental or homicidal cases. Internal injuries of hanging are characterized by: fracture of the hyoid bone and/or laryngeal cartilages, cervical fractures, muscle haemorrhages, vascular lesions. At external examination there are specific hallmarks of hanging. In particular sulcus skin is the most common external sign. Characteristics of the hanging mark vary in relation to the type of suspension and ligatures used.

In this paper, we describe 8 cases of the hanging mark in which were analysed the association between the characteristics of hanging mark and the characteristics of the method of suspension and ligatures employed. The analysis of the suspension medium used was conducted through the evaluation of the nature of ligatures: soft, smooth, hard and rough. After this analysis, we compared the macroscopic characteristics of the skin with the ligatures used. In some cases (3) we showed the correlation between soft and smooth ligatures with the clear hanging mark. In five cases we correlated macroscopic characteristics of the brownish hanging mark with hard and rough ligatures. We also showed that the rough and hard ligatures left a negative impression in the skin of the fabric's weft of the medium used in contrast to the smooth and soft ligatures. Also it is possible identify the number of rope turns in cases of hanging by rough and hard ligatures compared to binding soft and smooth. Also in the hanging mark by hard ligatures we founded the presence of small blisters and excoriations yellow-orange.

PP-381

An Original Wound Model As a Result of Postmortem Animal Attack

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In this study, autopsy findings of postmortem lesions formed on the body as a result of the attacks by wild animals were assessed. Features of the lesions noted were clearly against possibility of a stab wound.

The case was a female. There were tissue defects of the skin and soft tissue under the skin on hairy scalp, face, neck and anterior thoracal region while most of the rib tips of the anterior thorax and some parts of the sternum were all missing. The organs of the thorax and abdomen were visible, scalp compression fractures were present with missing parts, and deep cuts with antemortem properties resulted in arterial lacerations in both wrists and neck area. Bite wounds were noted in all skin borders, rib tips, sternum and face bones which were understood to be different than a human bite.

The skin and subcutaneous soft tissue separation in the face was almost perfect being far more different than the features of a wound that can be formed by a sharp object. All of these findings will be discussed using the images obtained during the investigation.

In this case, since there were also bites which were easily identified to be animal bites, it was not difficult to diagnose the whole picture. But here what we want to share is the photos and features of the cutting injury section to build up a differential diagnosis awareness with stab wounds when there is no other finding like bite or another concomitant trauma to help the physician diagnose easily.

PP-382

A Study of the Chemical Profile of Decomposition Using Pig Carcasses

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Background: As the body decays shortly after death, a variety of gases and volatile organic compounds (VOCs) constantly emanate. The identification of VOCs released from decomposing remains provides investigators with a plethora of potential applications; forensic information, material for training cadaver dogs, development of field analytical devices for dead victims, determination of the post-mortem interval. The potential use of VOCs emissions from dead bodies is so far examined using mainly combined analytical instrumentation, such as thermal desorption gas-chromatography-mass spectrometry (TD/GC/MS) utilizing both active and passive sampling into solid sorbents and solid phase microextraction GC-MS (SPME-GC-MS). The study of the early stages of decomposition is a promising area, especially for the recovery of victims of natural disasters and in locating clandestine burial sites. For ethical and practical reasons the use of domestic pig carcasses as surrogate human bodies is commonly encountered in human decomposition studies.
Method: The present study was performed at the operational field terrain of an urban search and rescue (USaR) team in Greece; two domestic pigs approximately 25 kg, were enclosed in a cylindrical cement tunnel. The carcasses were placed among the ruins for simulating the entrapment scene after building collapse. For comparison reasons, the first pig was placed in a full closed body bag to limit the diffusion of the gases in the air and the second in an open body bag under the ruins. VOCs were sampled using preconditioned stainless steel sorbent tubes which were subsequently analyzed using a TD/GC/Time-of-Flight MS (TD/GC/TOF-MS). Daily inorganic gas monitoring was also performed with the use of portable gas detectors.
Results: Among samples differences were observed in VOCs, inorganic gases, temperature, and humidity measurements. A variety of VOCs were identified including almost all chemical classes: sulfur, nitrogen, oxygen compounds, hydrocarbons, fluorides and chlorides. During the first two days of decomposition the majority of VOCs released were hydrocarbons, including acetone, benzene, toluene and xylene. The VOCs released during days 3–5 revealed the main compounds involved in the decomposition process. Volatile sulfur compounds (VSCs) such as dimethyl sulfide, dimethyl disulfide, and dimethyl trisulfide were the most prominent odorous VOCs during these days. The main inorganic gases detected were carbon dioxide, carbon monoxide, ammonia, methane and hydrogen sulfide.
Conclusion: The multiple volatile products identified provide important information not only for the location of buried bodies and entrapped victims but also for documenting some commonly encountered products when performing toxicological analyses on decomposing remains.

PP-383

Is every histopathologically determined fat embolism syndrome the exact cause of death?

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Background: Fat embolism syndrome (FES), is a rare and serious complication that was seen after multiple trauma. Petechiae, unconsciousness and respiratory failure are the clinical findings of FES within three days after severe trauma or orthopedic surgery however laboratory and radiological diagnostic methods are not available. In contrast to patients hard diagnosed, followed in clinic, assessed judicial cases with FES, histopathological diagnosis of tissue samples, is easier. But the often diagnostic finding of lung vascular lumen fat globules that seen in FES are not specific for the syndrome. In judicial cases without any trauma we found the same findings the with the real FES.
Material-method: 212 autopsy cases performed Council of Forensic Medicine in Ankara with the histopathological diagnosis of FES were evaluated retrospectively.

Results: 76.4 % of the cases were male (n:162) and 23.6 % (n:50) were female. The mean age was 56.1 years (range 3 to 89). Cardiopulmoner resuscitation (CPR) was performed to the 60.4 % of the cases (n:128). 45.3 % of the patients who underwent CPR (n:58) did not have any history of trauma. 48.3 % of the patients (n:28) were made CPR due to myocardial infarction and in the remaining cases of (51.7 %, n:30) with multiple bone fractures, which is mostly happened after traffic accidents and falls from height.
Conclusion: FES is one of the exact cause of death in forensic practice. However, a substantial portion of patients with postmortem histopathological findings of FES does not constitute definitive cause of death. Affecting the process of criminal cases when FES was diagnosed histomorphological findings should be correlated with autopsy findings.

PP-384

A Case of Medical Malpractice ?: Truncus Arteriosus

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Persistent truncus arteriosus is a rare form of congenital heart disease. The incidence is<3 % among the congenital heart anomalies. A single great artery arises from the two ventricles in this anomaly and sometimes two arteries arise but without complete separation from each other with only a membrane between them. There can be also a concomitant ventricular septal defect. Pulmonary arteries arise from this truncus. If surgical repair is not done, mortality is 50 % in the first month, 80 % in the first 3 months, and 88 % within the first year. Truncal valve insufficiency, aortic interruption, coronary anomalies and DiGeorge syndrome are among the significant factors impacting the mortality.

The case we present was a 40 day-old female infant who did not have any medical intervention. The infant was hospitalized when she deteriorated, then she was referred to a university hospital from the first hospital and died during the transport. Because of the family's suspicion regarding possible medical malpractice in the first hospital, the case was referred to the Council of Forensic Medicine Morgue Department for autopsy to determine the cause of death. In autopsy, all organs were found to be laterally on just the opposite direction like a lateral mirror image (situs inversus totalis). Besides, in detailed macroscopical examination of the heart, pulmonary artery and ascending aorta were seen to be arising as one root as truncus arteriosus and one venticule was detected instead of two separate ventricules. Thus, the case was decided not to be a malpractice.

Truncus arteriosus can be diagnosed in fetal life and early intervention can be life saving. The aim of this case report was to emphasize the significance of early diagnosis and point to the importance of autopsy in potential medical malpractice cases by demonstrating the findings even when there is no previous medical report on the underlying cause.

PP-385

Retrospective analysis of suicide cases in the territory of the Republic of Bulgaria

Marin Kostadinov Baltov

Retrospective analysis of suicide cases in the territory of the Republic of Bulgaria

Suicidal dynamics is being followed in the territory of the Republic of Bulgaria for the period of 2000 – 2009. Age and gender structure of the suicidal cases is being taken into account. The results of the research are presented in graphics and tables, whereas the latter are compared in relation to some economic factors, such as GDP and unemployment level.

A smooth decrease of the suicidal index is being observed over the years, as male suicidal cases seem to outnumber female ones. An increased number of suicidal cases of people over 65 years of age is noticed. There is a distinct correlation between the economic factors and the level of suicides.

GDP – Gross Domestic Product

PP-386

A few forensics aspects of the suicide cases observed in Plovdiv dstrict, Republic of Bulgaria

Marin Kostadinov Baltov

A few forensics aspects of the suicide cases observed in Plovdiv dstrict, Republic of Bulgaria

The dynamics of the suicidal index level is being observed in the district of Plovdiv for the period of 2000 – 2010. The suicidal distribution categories of gender, age, residency, social and marital status as well as the suicidal manners and the locations where they take place are being investigated. The results are presented in graphics and tables.

There are some fluctuations of the suicidal index over the years, as well as its bigger rates in the villages regions. Preferred suicidal manners are hanging over and jumping from heights. Male suicides are three times more than female, and the biggest manners of suicides are observed to have taken place with people between 40–64 years of age. No significant differences in social or marital status of the suicides have been observed.

PP-387

A Possible Hypothesis Related With The Changes In Consciousness As a Result of Hypothermia on an " Inappropriate Dressing" Case

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Introduction: Hypothermia can be defined as the decrease of the body temperature below to 35 oC (95 oF). Hypothermia can be divided into two categories as primary and secondary according to its etiology. The loss of the body temperature can be through radiation, convection, conduction and evaporation.

Hypothermia shows its affects on the body through thermoregulatory system with a number of mechanisms. Instantaneous or slowly progressing types of behavioral adaptations can be seen on the individual. In forensic medicine, these mechanisms can explain the immediate behavioral changes, which can be seen on the crime scene. However, the hide-and-die syndrome, the messy house syndrome and the paradoxical undressing can show variations.
Case: Our case was an 82 year-old male, who had relatively low self-care and in low socioeconomic class. The crime scene report revealed that his house had been opened after 2 days in which there had been no contact with him. The house was messy, there were broken electric and wood-burning furnaces in his bedroom, and the comforter was on the floor. The body was lying face-up, and was between the comforter and the furnaces; the lower part of the body was naked except a sweater's arm worn on his left leg. The external examination confirmed that there were lesions consistent with frostbite on the peripheral parts of body known to be sensitive to cold. Besides, crepitations of the joints, hardening of the scrotal skin were noted. The internal examination revealed submucosal focal bleeding areas consistent with Wischnewski ulcers in the gastric mucosa.

Discussion: During the crime scene investigation, besides the paradoxical undressing and messy house syndrome secondary to exposure to cold, "inappropriate dressing", a behavior which is not mentioned in the literature, was also noted.

"Inappropriate dressing" points to a possibility of at least partial regain of consciousness during a stage of paradoxical undressing which is secondary to some unknown changes in consciousness. Therefore, the aim of this study was to develop a possible hypothesis by sharing our knowledge and experience with an extensive literature search.

PP-388

Suicide by high voltage electrocution in south Tunisia

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Background: High voltage electrocution is a relatively infrequent mode of suicide which is surprising in view of the availability of means.

In fact, only a few cases are reported in the forensic literature.

Objective: To identify the risk factors of suicide by high voltage, its features and to insist on the danger of the mediatization in increasing the prevalence of this way of suicide.

Method: Retrospective case–control study, based on the autopsy records collected in the forensic unit of HABIB Bourguiba in Sfax (Tunisia), from January 2007 to December 2011.

Results: A total of 7 suicidal deaths from high voltage electrocution occurred between 2007 to 2011, representing 0,7 % of all cases of suicide.

The distribution is uneven depending on the year. Infact, in 2007, 3 cases were recorded in the same month.

All the victims were male, single, with a mean age of 22,28 years.

Half of them were unemployed, living in rural areas. In tow cases, a history of mental disorder was found. All cases have no prior suicide attempts. One case of complex suicide is also reported.

Death investigation found in all the cases the association of extensive electric burns and important traumatic injuries contributing together to death.

Conclusion: At the outset, this study serves to highlight that suicidal high voltage electrocution constitute a serious problem in Tunisia.

A call is made for greater attention to detail regarding the mediatization of these cases of suicide in order to avoid the "Werthers" effect specially among the young people easily fascinated by this demonstrative way of commiting suicide

PP-389

Firearms related homicides in the north of Portugal: a retrospective study for the first decade of XXI century

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Introduction: the number of firearm-related homicides in Portugal is increasing. The definition of preventive politics and the adoption of restrictive laws about the use and possession of weapons should be based on knowledge of the reality of each country.

Objectives: this study aims to characterize the firearm-related homicides in North of Portugal.

Material-methods: a retrospective analysis of all homicides by firearms occurred in the North of Portugal between 2001 and 2010 (n=189) was made, using data from forensic autopsy reports of the National Institute of Legal Medicine (North Branch) and criminal police, and clinical registrations.

Results and conclusions: During this period, 19401 forensic autopsies were performed and 476 homicides were recorded (2.5 % of all autopsies). Of these, 189 were committed using a firearm (39.7 % of total homicides). The average annual incidence was 0.5/100.000 inhabitants. The assault was more frequently in public places. The victims were mostly males (n=138), aged between 20–49 years. While female victims (n=51) were assaulted by their husband or ex-husband in the context of family violence (23.5 %) or for passion motives (17.6 %), males were assaulted by strangers or non-relatives for futile reasons, such as robbery, retaliation or prior enmity. The majority of victims were hit with a single shot (66.1 %), being the chest the region most frequently shot (28.6 %). The short-barreled weapons, especially guns of 6.35 mm caliber, were the most used (65.6 %). It was not possible to define a typical trajectory of the bullets once they differed depending on the location of the entry wounds. Only 11 % of the victims suffered additional forms of violence. The toxicological tests revealed that 65 victims (34.4 %) had a positive blood alcohol concentration, 7 (3.7 %) tested positive for "illicit drugs" and 2 (1.1 %) for medicines. The present study provides data which may help prevent this type of violent deaths.

PP-390

Hypothermia related death – a retrospective study (2000–2011)

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Introduction: Hypothermia is defined as body temperature below 35.0°C. There are two subtypes of hypothermia: hypothermia with intact and with impaired body temperature regulation. Hypothermia can be further subdivided into three different degrees: mild; moderate; severe. Below 25°C the functioning of vital organs is seriously endangered. In case of hypothermia the toxins originating from the decomposing tissues lead to general intoxication, causing death.

Autopsy findings in fatalities due to hypothermia are unspecific. Lividity and blood is usually reddish in color, the signs of right heart failure are often present, and Wischnewsky spots (small hemorrhagic gastric erosions) can be seen. If the possible cause of death is hypothermia, a complete toxicology screen for alcohol and drugs should be performed.

Methods: A retrospective autopsy study was performed for a twelve-year-period (2000–2011), the relevant data were collected from the autopsy records of the Department of Forensic and Insurance Medicine, Semmelweis University, Budapest. The data were analyzed according to gender, age, the presence of Wischnewsky spots, core temperature (measured at the scene or in the hospital), survival time, the presence of frostbite areas, blood alcohol concentration. Special attention was given to the scene (in-door or out-door place).

Results: The number of hypothermia related death cases increased in the observed period, and surprisingly many of the victims were not homeless people. Wischnewsky-spots were present in 85 % of the cases. The average core temperature was 26°C. Frostbite injuries were present in 1/3 of the cases.

Conclusion: Based on our findings we conclude that that he cause of death must be based on the circumstances of death, suggestive autopsy findings (such as the Wischnewsky-spots) and exclusion of other causes.

PP-391

Firearm-related incidents in the north of Portugal: legal consequences and social–economical burden (2004–2008)

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Introduction: although firearm-related incidents are not a major health problem in Portugal, their number increased in the past few years. Since 2005, violent crimes perpetrated with firearms have risen to numbers never seen before: in this setting, car-jacking, robberies to jewelleries and gas stations, and homicides, are the most common type of crimes. The loss of years of life and the consequences resulting from injuries caused by firearms represent high socio-economic costs.
Objectives: this study aims to be the first to quantify the social costs due to firearm-related incidents in North of Portugal, both fatal (homicidal, suicidal or accidental) and non-fatal ones (minor and major), as well as analyze the legal consequences of firearm related incidents after the introduction of the new Portuguese Firearms Law, in 2006.
Material-methods: a retrospective study was made using data from autopsy reports of the National Institute of Legal Medicine – North Branch, Criminal Police, Courts and Jail Services reports, and clinical registrations, in the period between 2004 and 2008.
Results and conclusions: in this period, firearms were responsible for a total of 281 deaths and 618 non-fatal injuries. In fatal cases, the manner of death was homicidal in 34.2 % (n=96) of them, suicidal in 60.9 % (n=171) and accidental in 4.9 % (n=14). In suicides, the most used guns were handguns (65 %). In contrast, shotguns were used in 48 % of all homicides. Shotguns were also responsible for all the observed accidents. This study analyzed and characterized: (1) the mean sentence to serve in jail for crimes involving the aggression with firearms; (2) the medical mean costs by type of injury; (3) the loss of productivity for the society; (4) the mean costs of police investigations; (5) the mean costs of judgment and imprisonment. The obtained results can add an important contribution to the evaluation of the new Firearms Law efficacy, both in the prevention of firearm-related crimes and accidents and in the reduction of social-economic costs.

PP-392

Unusual suicide by a router saw: a case report

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Suicide by power saws (bland, chain, circular or router saw) are extreme exceptions. A few case reports are published in the forensic literature.

We report the case of a 30-year-old carpenter found dead lying on the floor next to a router saw in his carpenter workshop, with two gaping and deep wounds in the head.

We summarize the findings of the death scene examination, the autopsy findings, and also summarize the world literature concerning suicide committed with power saws.

PP-393

Aortic Aneurism Rupture in A Pregnant Woman

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Cardiovascular disorders are the leading causes of death in elderly people. Among them aortic dissection and rupture can be listed as rare causes. Aortic dissection and rupture may develop usually secondary to atherosclerosis, hypertension or trauma. Additionally, some genetic factors may predispose patients to dissection or rupture of the aorta.

Our case is a 27 years old pregnant woman whose autopsy was performed when she died in a public hospital. Physical examination of corpse revealed an abdominal distention consistant with a 4–5 months of pregnancy and traces of needle entry on both elbows and dorsum of her left hand. In her autopsy, brain, cerebellum and brain stem of her weighed 1360 grams. From her right hemithorax 400 cc serohemorrhagic fluid and from her left hemithorax 1700 cc coagulated blood were drawn. A 50 cc serous fluid was collected from her pericardial space. Some atherom plaques were observed in her arcus aorta. There were also some endothelial irregularities surronding the orifice of the anuerism. The orifices of the aneurism were located at the wall of left subclavian artery with 0.8 cm in size and and the upper end of the aortic arch with 2 cm in size. The thin walled saccular aneurism with advetitial hemorrahges was anostomozing with vessel walls and had 2 tears with 0.5 cm and 0.2 cm in lenght. The hearth was 239 gram. Histopathological examination the hearth showed medial hematoma in aortic vessell walls, elastic degeneration, and diffuse fresh hemorrhagy.

Physiological changes observed during pregnancy form an important load to the the cardiovascular system of the pregnant woman. Similar to the non-pregnant population, cardivascular disorders seen in pregnancy can be assumed among the leading causes of maternal morbidity and mortality. Clinicians should keep this point in their mind when managing pregnant women.

PP-394

An Unusual Complex Suicide

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Introduction/background: A case of an unusual complex suicide is reported, in which the victim after unsuccessful previous attempts (use of an electric wood cutting machine and a knife), he hanged himself. According to our knowledge, the use of a wood cutting machine is not yet reported in the existing literature as a suicidal mean.
Case: A 44-year-old man was found hanged with complete suspension inside the toilet of his house with three wounds in flexor surfaces of the forearms. Blood spots were observed in the decedent's house, and in an electric wood cutting machine placed in the living-room floor. A bottle of chlorine was found, next to a semi-filled glass containing also chlorine. Two hand written suicide notes were placed on the furniture next to a kitchen knife.

Signs that would have raised suspicions of previous violation of the space were absent. Besides, the victim had a history of a previous use of antidepressant medication, but he had stopped taking them without medical consultation.

The autopsy apart from the typical ligature marks at the decedent's neck, it also revealed three self-inflicted hand wounds without hesitation marks besides them. The one of them was an incised wound of the flexor surface of the left elbow caused by knife. The other two wounds were chop wounds with characteristics of incision and blunt force trauma in combination, placed in the flexor surface of the right elbow and in the flexor surface of the left wrist, respectively. They were caused by an electric wood cutting machine found in the house full of blood. Former consumption of chlorine was excluded.

Discussion: The cause of death based on case history, scene and autopsy findings, is attributed to cerebral hypoxia due to hanging, and the manner of death is suicide. In spite of the former self inflicted wounds caused by a knife and an electric wood cutting machine, medicolegal examination of the body proved that the decedent was capable of physical activity. Probably, in too much pain, he decided to cease his life with a less painful method, that of hanging.

PP-395

Suicide in the context of intimate partner violence – A case report

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Background: Intimate partner violence (IPV) is broadly defined as a pattern of abusive behaviors within intimate relationships. It has been associated to many health consequences including depression and suicidal behavior, being one of the most extreme one the victim´s suicide. The relation between intimate partner violence and suicidal ideation is moderated by depression that is the most prevalent mental-health sequelae of IPV. Furthermore suicidal behavior was identified as one of the most alarming sequelae of IPV. Abused women are more likely than non-abused women to have a history of suicide attempts.

Most of the times, the correct identification of IPV-related suicide deaths is not made so easily, mainly because there is lack of information on the circumstances surrounding the suicide. This study intends to contribute to a better understanding of the suicide phenomenon in context of IPV, to improve the professionals' knowledge in this area and help to prevent suicide.

Case Report: The authors report a case of suicide (hanging) of a fifty-eight years old woman, institutionalized since the previous day in a shelter, for being victim of intimate partner violence for several years and with depression unresponsive to their family situation. We recorded previous suicide attempts, with a recent hospitalization for pesticide ingestion (suicide attempt), occurred after a physical assault inflicted by husband, which resulted in a penetrating trauma in the right eye, with subsequent blindness.

Conclusions: This study highlights that collecting routinely social information and data about circumstances surrounding the suicide is crucial so that IPV-related suicide deaths can be correctly identified. Also, recognizing prior IPV and improving mental health care services, should have a positive impact in decreasing suicide deaths in the context of abusive intimate relationships.

The present study has also important implications for health care professionals. An awareness of the association between intimate partner violence and suicidal ideation can lead to the development of effective preventive strategies and intervention programs. Proactive monitoring of the identified cases through phone calls or home visits may also be considered, and psychosocial support programs should be provided to victims who are depressed. Therapeutic sessions are also recommended to safeguard or reduce the possibility of these individuals committing suicide.

PP-396

Pethidine releated sudden death

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Pethidine is an opioid analgesic synthesezied as a potential antispasmodic agent first. It is indicated for the treatment of moderate to severe pain. It was supposed to be safer than morphine and carry less risk for addiction. Overdosage can cause respiratory depression or coma. A 34 years old male was found death in his room at the hospital while he was working as a doctor on duty. He was found as sitting on the sofa, and an used 100 mg Aldolan (Pethidine) ampule and injector was found near him. According to knowledges taken from his relatives, he had operated for cervical disc hernia few years ago and he had been complaining about his headaches after operation.He had been often taking oral analgesics. On histologic examination arteriolar and capillary microcirculation in the lung, pulmonary artery trombosis and minimal myocardial interstitial fibrosis was detected. Detailed history, systemic autopsy, histopathologic examination and toxicologic analysis revealed pethidine releated respiratory arrest as the reason of death. In this study we want to draw attention to importance of drug use, dosage, and using under the supervision of a doctor even if you are a healty worker.

PP-397

Multiple sclerosis in forensic practice – A Case Report

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Background: Multiple sclerosis (MS) is the most common autoimmune inflammatory demyelinating disease of the central nervous system and is a leading cause of disability in young adults. Affects more women than men, with an estimated female to male ratio from 1.4 to 2.3. There is progressive neurodegeneration and multifocal areas of demyelination with loss of oligodendrocytes, astroglial scarring and axonal injury. Macroscopically, it reveals itself as gray discoloration (plaques) spread throughout the central nervous system. Chronic plaques are sunken and grey and generally sharply defined. Acute plaques have a rater more granular appearance. The outcome of the progressive form of MS is usually poor, leading to early death, due to progressive neurologic deterioration.

Method: The authors report a case of sudden death in a fifty years old woman whom social information appeared stuck with the intrusion of food in the upper airways and a history of multiple sclerosis and severe disability. Albeit the known patient's clinical history, a forensic autopsy was required.

Results: At necropsy, samples of heart, lungs, liver and kidneys were collected for ancillary histological evaluation. After brain and spinal cord fixation in a 10 % formalin solution, a further neuropathological evaluation was performed. This exposed widespread plaques of gray discoloration of the white matter, noted mainly in periventricular areas of the cerebral hemispheres, pons and spinal cord. Samples of brain, brainstem, cerebellum and spinal cord were additionally collected. Histopathological analysis showed extensive autoimmune demyelinating phenomena of the central nervous system sections and severe bronchopneumonia, the ultimate cause of death. Toxicological quantitative analysis showed therapeutic blood levels of propranolol.

Conclusions: The investigation of sudden death among young adults with progressive neurologic disorders is uncommon in forensic

practice. In most cases, death is expected and usually there is thorough clinical documentation to support the premature fatal outcome. In this case, notwithstanding there was no wary fact in the victim's clinical background, a forensic autopsy was required, mainly to exclude a violent cause of death by food intrusion in the upper airways, providing us the chance to analyze such a progressive neurological disorder and, to some extent, contribute to its further characterization. We must emphasize that the accurate analysis of the post mortem brain, pons, spinal cord, heart, lungs, liver and kidneys examination is mandatory to provide vital information related with victim's disease and exclude a violent death.

PP-398

Oxidized Bullet Secondary to Long-Term Stay in the Body: Case Report

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Introduction: Firearm wounds constitute a significant percentage of forensic cases. According to our law, the fine is determined based on the degree of the injury. When there are multiple perpetrators causing firearm wounds, the injury that each individual caused is assessed separately for determining their fine according to their part in the whole injury. This is an important responsibility of the forensic medicine specialist performing the autopsy.
Case: There were a total of 5 firearm wounds in the right lower quadrant of the abdomen, right thigh, and right hand in this case. The radiologic examination revealed presence of a bullet image in the right lower abdomen, and right tuber ischiadicum. A discrepancy was noted when the external firearm wounds and radiologic examinations were compared. Thus, the exploration was continued to be able to find the 'extra' bullets seen in the scopy image but couldn't be matched with a firearm entry wound. Then, after a long exploration a 7.65 mm oxidized bullet encapsulated with a fibrotic tissue was found in the subcutaneous adipose tissue in the right lower abdomen and in the bone tissue of tuber ischiadicum during the autopsy. Based on these findings, it was concluded that these bullets were the results of a previous firearm injury despite the lack of any wound at the external examination of the abdomen except widespread striae.
Discussion: The aim of the current study was to emphasize the significance of demonstrating short-term versus long-term changes in the firearm wounds with images, when there is discrepancy in the radiological and external examination findings.

PP-399

Suicide by hanging and nonlethal self-inflicted injuries – a case report

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Background: The self-inflicted injuries can be divided into two major groups: the self-inflicted injuries lethal and nonlethal.

Self-harm behavior is defined as any attempt of intentional and direct injury on body tissue, by an individual, in order to cause self-harm. Often used as a way to draw attention or as an emotion regulation strategy or relief of pain. It presents itself in many ways such as: small cuts on the body, superficial, regular, with equal depth on both sides, often parallel, especially on the non dominant part of the body and originated from cutting objects. The self-inflicted behavior can become a natural response to the stress and may increase the frequency and severity. People who self-inflict can be considered high risk to repeat the same behavior. The lethal self-inflicted injuries are called suicide, and the hanging was the method often used. In these cases, the victim usually leaves a note to justify such act, showing that suicide is, in general, a carefully planned act. Some authors recognize the high risk of suicide in people with history of nonlethal self-inflicted injuries.

Autopsy of a 34-years-old man whose death was due to mechanical asphyxia by extrinsic constriction of the neck (hanging). In the death scene conducted at the residence of the victim was found a farewell note. During the autopsy we found several wounds superficial, linear and parallel, in the flexor and extensor surfaces of the forearms and wrists. We also observed numerous linear scars in those regions.
Conclusions: This case highlights for the understanding of the relation between self-inflicted injuries lethal and nonlethal. It's important to know the relation between the victim's history and the medico-legal diagnosis made. Suicide cuts are mostly inflicted by sharp instruments. The presence of linear scars may suggest previous attempts. In many attempts of suicide the victim replaces the method of cutting the handles after some experimental incisions and tries other type of self-destruction that expects to be more effective. The left wrist is the most common target of right-handed people, but frequently they cut both wrists.

As there is no clinical marker for self-injury behavior, often these individuals are not taken seriously by other people who come to doubt what they feel and, at a later stage of life, after the attempt suicide, they end up consummating the act. Men tend to use violent self destruction methods characterized by high mortality, such as hanging.

PP-400

penetrating chest wounds by knives

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penetrating chest wounds by swords are frequantes in our city because of widespread violence in our metropolis. they warrant special attention due to morbidity and mortality. a retrospective study in our analysis the different parameters.. these wounds penetranters result sex masculindans almost all of the cases of aggression. they interessnt young adults,

PP-401

Complex suicides: Two cases report and a review of literature

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Complex suicides occur when more than one method is used in order to commit suicide, whether simultaneously or sequentially. When two or more methods are used concurrently it is called a primary or planned complex suicide. When the methods are used consecutively, due to failure, pain or delay of the first method, it is called secondary or unplanned complex suicide.

The authors performed a review of the literature focusing on the combined methods used and present two complex suicide cases that occurred in Lisbon area, whose autopsies were performed at the National Institute of Legal Medicine and Forensic Sciences of Portugal – South Branch, one primary (hanging and gunshot wound to the head) and one secondary (penetrating sharp force wound to the chest followed by fall of height).

The two cases are of caucasian males, 40yo and 61yo, one of which had reference to suicidal thoughts. In both cases a toxicological analysis was carried out, which became positive for ethanol in one of them.

PP-402

Unusual lesions in a run over accident. Differential diagnosis with other etiologies

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In Spain, the practice of autopsies carried out due to violent deaths or deaths suspected of criminality, are regulated in the Criminal Procedure Law. In the particular case of car accidents, our legislation allows The Police to be the one who directly performs the removal of the corpse; they carry out a report where they describe how the accident happened and which is later sent to the judge. Therefore, in this case, the forensic doctor does not know how the accident happened. This can lead to an error, because in some cases like run overs, the forensic doctor does not have the initial information that the ocular inspection in the place of the accident provides, and when performing the examination of the corpse, it can present wounds which can lead to believe that they could have been produced by different means.

Given the fact that a run over implies a complex traumatism with a wide variety of injuries, we can face problems when it comes to the medical-legal diagnosis of some of the wounds that the corpse may present. This means that a differential diagnosis with other possible medical etiologies, such as homicide, should be performed.

An example of this is illustrated in our study, which consists of a deceased male who was run over by a truck when he left the car he was driving in a highway. When starting the autopsy and performing the initial external examination, we could observe, amongst other injuries, a wound that looked like the result of a sharp stab, in the middle- superior region that did not seem compatible with the features of the run over he suffered. This opened the possibility that such wound might have been produced by a knife, making us consider, then, a homicidal etiology.

After studying the Police´s report, including detailed photographs, and wreckage of the vehicle which could have been responsible for the mentioned injury, a morphological comparative study was carried out. Through this study, we could check the compatibility between a metallic remain of the vehicle and the observed lesion, and the study was completed with a DNA analysis of blood samples found in the object.

PP-403

Severe hemorrhagic myocardial infarction

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Cardiovascular pathology is still the responsible for many deaths in the occidental society, including sudden death in young adults.

Cardiac pathologies caused by rhythm alterations (long QT, Brugada syndrome, ionic channel pathologies, genetic alterations such as hypertrophic myocardiopaties etc.) are becoming more and more frequent. As well, those of ischemic origin, both severe and chronic, still have great importance. However, in medical legal regular practice, despite the fact that it is frequent to find deaths caused by this kind of ischemic pathologies, it is not normal to find manifestations of severe ischemia which leads to a severe hemorrhagic myocardial infarction.

This pathology is the object of our study, for it consists of a 48-year old male, with a history of arterial hypertension, who died sitting on a sofa after getting up in the morning. There is no record of previous cardiac symptoms. As an interesting macroscopic finding during the autopsy, a 939-gram heart with hemorrhagic infiltration in the surface stands out. When serial slices of it were performed, an extensive hemorrhagic infiltration could be observed, which covered the area from the apex (front and back faces and left ventricle and interventricular wall) to the auricular-ventricular union.

PP-404

A rare case of fatal subarachnoid hemorrhage due to traumatic rupture of the posterior cerebral artery

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Introduction/background: Basal subarachnoid hemorrhage (BSAH) is usually attributed to non-traumatic causes, mainly aneurysm rupture. However, BSAH is also caused by trauma sustained in traffic accidents and external force injuries. Traumatic basal subarachnoid hemorrhage (TBSAH) was believed to occur following severe traumatic lesions to the head or neck. It is currently accepted, though, that TBSAH can also result from minor trauma, such as that caused by an external force equivalent to a fist punch, and is often associated with alcohol consumption by the descendants.

Case: The authors present the case of a 57-year-old male, who was assaulted and killed by two individuals following an argument. The descendant first received a blow to his head with a glass bottle and then a couple of fist blows to the face.

PP-405

Un unusual case of fatal acute pulmonary edema due to pheocromocytoma

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Introduction/background: Pheochromocytoma is a catecholamine-producing neuroendocrine tumor deriving from chromaffin cells of the adrenal medulla or extra-adrenal paraganglia.

Typical clinical findings include headaches, palpitations, excessive sweating and paroxysmal hypertension. Other clinical findings may include hypotension, arrhythmias, cardiomyopathy, myocarditis and myocardial or peripheral ischemia. Pulmonary edema, acute renal failure, diabetic ketoacidosis and abdominal bleeding may occur as well.

Pulmonary edema as the first presentation of pheochromocytoma is uncommon and usually fatal. In most cases it is cardiogenic in origin. Nonetheless, non-cardiogenic pulmonary edema may also be observed rarely (only 7 cases have been reported in the literature since 1966). It is believed to occur as a result of catecholamine-induced transient increase in pulmonary capillary pressure due to pulmonary vasoconstriction and altered pulmonary capillary permeability.

Case: The authors present the case of a 39-year-old female, former drug abuser who died unexpectedly at her residence, in her 6-year-old son's presence. During autopsy, a spherical tumor 3.5×2.5 cm was detected on the left adrenal gland, along with massive edema of the lungs each weighing more than 900 g. No further pathological lesions were identified during autopsy. The toxicological analysis of whole blood, urine, bile and gastric content was negative. Microscopic and immunohistochemical examination of the tumor specimen revealed a pheochromocytoma. The individual's death was attributed to acute pulmonary edema due to pheochromocytoma-derived catecholamine hypersecretion.

PP-406

The Involvement of External Contusive Traumatic Shock in Thanatogenesis: Case Reports

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Background: The present study reflects part of our efforts to define and describe the entity we call External Contusive Traumatic Shock (STEC) and its direct involved in death onset. We refer to traumatic disorders due to external contusive injuries, without any major damage to the vital organs and underline the need to quantify their patho-physiological effects, with the purpose of establishing the homeostatic threshold for the onset of the death-generating syndrome. Due to it's frequency, the intricacy with other potentially lethal factors became an important part of the study, otherwise narrowed by the scarcity of cases of pure traumatic shock.
Method: We describe 3 relevant cases that were autopsied in the Institute of Forensic Medicine Timisoara – victims that sustained extensive external injuries (all victims of interpersonal violence), with otherwise minimal haemorrhage or damage to vital organs. We also propose the use of the bodily diagram as a tool for a clearer visualization of the extent of external injuries, both for forensic use but also as part of the criminal file.
Results: Case 1: BL, female, 31. Over the 2 weeks previous to death and the night before she was severily beaten by her concubine. Cause of death: traumatic shock with intracardiac thrombosis and pulmonary embolism, secondary to a severe politraumatism with extensive echimoses, wounds and haematomas.
Case 2: F.V., female, 49, severily beaten by her husband. Cause of death: traumatic shock due to severe external trauma. Alcohol blood level – 0,55 ‰.
Case 3: I.I.A., female, 21 ani, severily beaten by her concubine, over an hour-long period of time. Cause of death: traumatic shock due to severe external trauma.
Conclusions: Irreversible STEC can only be considered as singular determining cause of death after a thorough forensic expertise that should exclude the presence of other determining factors and establish the extent of the involvement of concurring factors.

Information such as antemortem and postmortem interval, medical history, medication, substance abuse etc, can proove of utmost importance.

The involvement of the forensic pathologist in CSI activities is essential.

When concurring factors (hypotermia, high alcohol blood level etc.) are involved, the forensic expert should consider the hyerarchy of all factors in the death-generating process.

Predisposing (risk) factors can also intervene by favouring the onset of STEC even if external injuries are less extensive. Other favouring factors (such as kidney disfunctions) can amplify the severity of STEC.

PP-407

The study of gallstone 200 cadavers of more than 15 years old in Legal Medicine of Kerman in 2011

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Background: Gallstone is the most common disorder of gastrointestinal tract that needs hospital addmission. Gallstone is more than 95 % of gallbladder disorders. The prevalence of gallstones is low in Asians. Many factors influence the prevalence of this disease in Iran. The aim of this study was to determine the prevalence of gallbladder stones in a population by the study of cadavers.
Methods: In this basic study, autopsies were performed on 200 cadavers of more than 15 years old. The cadavers were studied to microscopic and macroscopic change on the gallbladder.
Results: 162 cadavers were men (81 %) and 38 cadavers were women (19 %). The prevalence of gallstone disease in these cadavers was 4.5 % (men 3.1 %, women 10.5 %, not significantly different, P Value=0.068). The prevalence of gallstone disease in these cadavers with age <40 (61.5 %) was 0.8 % and in cadavers with age 40>= (38.5 %) was 10.4 %. (P Value=0.002). The prevalence of gallstone disease in these cadavers with BMI <25 (61.5 %) was 3.3 % and in cadavers with BMI 25>= (38.5 %) was 6.5 %. (P Value=0.310). In this study the prevalence of gallstone was low, so judgment about other risk factors including: RUQ pain, abdominal sergury, co-morbidity, addiction, OCP and use statins was not possible. In microscopic study on gallbladder 152 (76 %) reported normal, 48 (24 %) was chronic cholecystitis and there was no acute cholecystitis, complicated acute cholecystitis and gallbladder carcinoma. In pathologic study 22.22 % (2 number) of gallstone were pigmented and 77.77 % (7 namber) were cholestorl.
Conclusions: The prevalence of gallstones differed among age, sex and BMI groups.

PP-408

Deaths Related To Druge Abuse In Cairo During (2003–2007)

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Background: Detection of drugs of abuse in postmortem cases is associated with some special difficulty compared with clinically derived specimens. One advantage over clinical situations is that many more alternative specimens can be collected in a postmortem setting. These may include hair, muscle, fat, lung, brain, bone, and even larvae of insects feeding on the host

Death caused by an acute intoxication requires three conditions to be met: the toxicological concentrations must be within the range typically encountered in such fatalities, the history and circumstances must be consistent with a fatal intoxication, and the postmortem examination must fail to disclose a disease or physical injury that has an extent or severity inconsistent with continuation of life
Method: This study is a retrospective descriptive analysis for drug abuser deaths autopsied at Zenhom mortuary (Forensic medicine Authority- Ministry of Justice) in Cairo during five years period (2003–2007).

Data collected from archived reports written by medico legal experts.

The study included 241 deceased assumed to be drug addicts according to their postmortem toxicological findings from total 4717 cases dissected in Zenhom mortuary.
Results: Results showed that males were predominant 90.5 % (218/241) and most cases relatively at youth age people. The commonest substances with abundant toxicological findings were alcohol, opioids and cannabis in percentage of (40.7 %, 21.6 %, 18.3 %) respectively. The commonest cause of death was due to drug overdose intoxication (40.2 %) which incorporates alcohol (49.5 %) and opioids (42.3 %); and rarely others. The other causes of death include mainly head injury

and trauma, stab wounds and pathological condition; and to lesser extent asphyxia, drowning and others (firearms, burns and electrocution…etc.). Pathological investigations were done for the selected cases with evident toxicological findings and no definite cause of death was detected. At crime scene the evidences of drugs abuse were positive related mostly to opioids drugs.

Conclusion: It is concluded that this strategy of prospectively categorize deaths among drug addicts, constitutes an additional and simple means of standardizing the surveillance of the death among drug addicts that could allow for comparisons over time and between countries, and directs attention and gives warning to the drug abuse problem in Cairo, and determines the pattern and different causes of death among them.

Key words: cannabis- opioids- alcohol- overdose toxicity- lungs- brain

FORENSIC TOXICOLOGY

PP-409

Massive Attack of Africanized Bees Leading to Death: Case Report- Cáceres-MT-Brazil

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Introduction: Bees are the most important poisonous insects known to man. Belonging to the Order Hymenoptera the genus Apis is created around the world and these insects also have great medical importance since they are cause of human deaths due to the toxicity of their venom. In Brazil, in the 50s, there was hybridization of European and African strains of Apis, known as "Africanized Bees" (AB), with good production of honey and highly aggressive behavior. Since then, in Brazil there are hundreds of reports of serious and fatal accidents caused by AB. A bee can kill a human being by two mechanisms: hypersensitivity reaction, which occurs as a result of individual predisposition that is not related to toxicity of the venom. The other way is attributed to the synergistic action of two venom's compounds, melittin and FA2, whose predominant symptoms are nausea, vomiting, weakness, hypotension, pulmonary edema, tachycardia, loss of consciousness and shock.

Case: Male, 81 years-old. Hometown Cáceres-MT, hight 1.68 m and obese. In june's 7th, 2010, the victim suffered a massive attack of AB. The victim had countless bee stings, with presence of stingers and glandular structures visible on the skin. The highest concentration of bites occurred on the face, neck, ears and the proximal portions of the corpse's chest, sparing areas covered by clothing. A large number of stings around showed the presence of bruises.

Discussion: the countless injuries that the victim suffered caused his death. We considered that this victim had his death almost instantly (not a common fact) due to the large number of stings and the excessive amount of venom inoculated. The causes may be multiple, but it is necessary to consider venom 's cardiotsoxicity and its potential to cause hypotension and shock as a major cause of death. The glottis, in direct examination, had no swelling that would justify the death of allergic phenomena. Hemolysis and rhabdomyolysis are delayed effects that would not manifest itself as an in acute envenomation, but the venom appears to cause local bleeding, detected through the bruising and bleeding around the stings. The victim's expertise was determined by massive exogenous envenomation caused by AB attack.

PP-410

Experimental study IN VITRO about dettection of Cocaine Capsules swallowed by "Human Mules", using wraps with Aluminium foil

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Introduction: The international cocaine traffic is a serious problem in Brazil. Capsules containing drugs (cocaine and pasta base) are swallowed by the "human mules", usually involved in resistant materials to prevent the action of digestive juices, avoid leaking and bypass the diagnostic imaging equipment. Often, among the various layers of capsule shells, they use carbon paper, fingers of surgical gloves, rubber balloons, PVC films, automotive solar control film (obscuring glass) and recently, also aluminium foil. **Objective:** To evaluate the wraps in conventional radiography and computerized tomography, analyzing its ability to hinder detection of capsules.

Methods: Using a test tube with saline solution, sealed with plastic stoppers and involved in the same materials used by drug traffickers, the samples were numbered and radiographed with x-ray equipment (TFX 15, GE, USA), being documented on radiological film and digital file. The material was also scanned on a multislice CT (model BrightSpeed, GE), with slice thickness / reconstruction of 3.75 mm and printed on special equipment (Dry-view Laser Printer 8900, Kodak). The images were analyzed by a radiologist expert and CT analyzed quantitatively by the specific device (ROI - Region of Interest).

Results / conclusion: There was no detectable difference in radiological density of the contents in the RX and CT scan. The densities (Hounsfield scale) showed little difference attributed to the positions of the object within the field of vision. The different containers do not have the capacity to significantly alter the radiological density of tested objects, either in conventional radiography or computed tomography. Although the use of aluminium foil is a new expedient used by international drug traffic, including the material among layers of swallowed capsules does not mask the conventional image diagnoses or even more advanced methods, as computerized tomographic imaging.

PP-411

Detection of new drugs in São Paulo State - Brazil: new expression of methamphetamine

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Brazil is the largest country in South America with extensive land border with other 10 countries, and has the longest coastline and busiest ports. Thus, inevitably becomes a gateway to narcotic's traffic to Europe, Africa and to a lesser extent, to the United States. Although the main concern is focused on domestic consumption of marijuana, cocaine and crack. Consumption of synthetic drugs is also growing as small ecstasy's exports to European markets, just like appoints United Nations Office on Drugs and Crime (UNODC). Brazilian's law does not provide a generic classification of drugs. It depends on an exhaustive list of proscribed substances provided by the Ministry of Health. This feature makes that this list of drugs, should be changed every time there is a new drug, generated from chemical modifications of an existing one, for example. Thus, criminal organizations manufacture drugs by slight modification of the molecular structure of illegal substances, staying on the sidelines of national and international monitoring. The most consumed synthetic drug in Brazil is ecstasy (3,4 - methylenedioxymethamphetamine, MDMA) seized by police since the 90's. In march 2011 a new drug, diferent of brasilian's drug standards where identified. Methamphetamine as a drug of abuse, usually comes in many different settings and the most common forms are crystals and powder, getting the names of ice, speed, crystal, meth, among others. Forty one tablets were seized at several locations in São Paulo state during August to December 2011. The initial chemical and physicochemical results were negative for narcotic substances listed in Ordinance No. 344/1998 SVS-MS that are routinely investigated according to law. However, all of them contained synthetic drugs and were sent to the Narcotics Division to further analysis. It was observed that 20 samples were positive for MDMA associated with caffeine. Methamphetamine was the second psychoactive substance found in 11 samples. The high amount of methamphetamine found in those seized tablets, drew authority's attention because methamphetamine, is defined in national legislation only as a psychotropic substance, subject to reporting revenue "A", but it does not figure in prohibited substances list. In this case the interaction between Judicial Police and Scientific and Technical Police was crucial for an efficient detection of this new expression of synthetic drug, triggering the process to seek its inclusion on the banned substance list and subsidizing research and tracking of drugs.

PP-412

Cocaine Base Paste (PBC) - Ways of transportations on the Western borders of Mato Grosso – BRAZIL

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Introduction: According to annual reports from institutions responsible for monitoring drugs in the world, Brazil is considered the largest consumer of cocaine in Latin America, serving as a corridor and route for the distribution from the manufacturers in Peru, Bolivia and Colombia.
Objectives: Make inventory and research, with the cooperation of the Federal Police Department of Caceres, the GEFRon (Special Security Frontier) and the Federal Highway Police, about the ways expedients used in the illegal transport of the drug thought the west borders of Mato Grosso State – Brazil, side by side with Bolívia. The sensitive increase in arrests involving teenagers trafficking drugs from San Matias (Bolívia) to Caceres (Brazil) motivated this study.
Methods: Pre-structured interviews with police officers and GEFron staff, with arrested drug dealers; visits in San Matias city and region; photographing "TRACKS" used by the traffic and marking the main satellite coordinates GPS; Search and ddocumentation about the settlement of "landless", facilitating the recruitment of population in need from drug producers; visits and monitoring the various checkpoints along the border.
Discussion / comments: The “TRACKS” have a difficult access and there are new methods being used by the “mules”, There is insufficient equipment and modern weaponry, also lack of effective police structure to be applied in river inspections, perimeter and in search of hiding places in vehicles crossing the border, called “MOCOS”. The GEFron has only 98 agents with a very low pay. There is a huge difficulty to detect some forms of "MOCOS" and "HUMAN MULES", when drug discovery and arrest of the dealer only happens with previous anonymous denounces. There is an absolute lack of intelligence work, and the arrests made by sampling and empiricism.
Conclusion: "TRAILS" have difficult access, but at the same time enable easy transposition between the neighbors countries; The border is quite extensive; Diverse and varied devices are being used by traffickers to hide the drugs, called "MOCOS”; the "MULES" also are innovating with new methods of transportation; Lack of specific equipment and modern weaponry to exert effective repression; There is no effective police structure for monitoring water and air; The regions it's sore point to the national and regional strategy to combat international drug trafficking, but requires more attention from managers and government, establishing a robust national plan, including heavy local investment.

PP-413

International drug traffic>Brazil - Bolívia: unprecedented Case Report: "HUMAN MULES" with swallowed capsules of cocaine wrapped with Aluminuim foil - the risk of intoxication for over dose

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Introduction: The international traffic of cocaine (base paste) is a serious legal and social problem that increases its proportions every day. Recently, more precisely on July’s 22th, 2009, at the International Airport Marechal Rondon, Varzea Grande, MT were arrested two "HUMAN MULES" coming from Bolívia (J.M.S., male, 30 years old and F.M.G.Q, female, 22, both bolivians), when they were held in the metal detector device. Later, in the emergency room of Cuiabá, with the x-rayed and it was diagnosed the presence of swallowed capsules in their abdomen. With specific proced and under medical supervision, they expelled the cocaine capsules (with 90 and 80 capsules respectively), aroused great interest in authors by the unusual material used in the cocaine’s wraps: ALUMINIUM FOIL.
Objective: Present to the medical community of other states in Brazil this new expedient to wrap swallowed cocaine capsules, documented with the images detected with only by the x-ray.

Methods: Study carried out by evaluating all radiographs of the abdomen obtained from the patients and compare with other standard radiographs.
Conclusion: The RX method had already defined the patterns in the detection of cocaine capsules swallowed, being common expedient used by the "human mules" in western border of Mato Grosso (Brazil – Bolivia). These characteristics should be considered in the evaluation of suspected cases, especially in regions of known high incidence of drug traffic or transit route for drugs. Besides the quick diagnoses being useful for the suppression of drug traffic, avoids any abdominal complications that can even lead to death of the patient. The lack of familiarity of radiologists and health professionals in general can lead to greater difficulty in finding an accurate diagnoses, especially in areas where drug traffic is unusual for this type. As outcome of our research, we present two recent cases photos, confirming the presence of aluminum foil among the layer of swallowed capsule wraps, without modifying the characteristics of these images comparing with other standard previous studies carried out by the authors.
Results: The cylindrical abdomen radiographies images show soft tissue density and sharp boundaries, best seen in the region where its laps are highlighted by contrast with the adjacent gas. Computed tomography (CT) is still the most reliable and accurate diagnosis method for the detection of cocaine capsules inside the gastrointestinal tract, no mattering which material type used to pack the drug.

PP-414

Protective effects of magnesium toward nickel hepatotoxicity in rats

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The present study was undertaken to evaluate the protective effect of magnesium against nickel-induced oxidative liver injury in male albino rats. Male albino rats were randomly divided into four groups, where the first group was served as a control, whereas the remaining groups were respectively treated with magnesium sulphate (296 mg/l in drinking water), nickel sulphate (2 mg/100 g b.w./day, intraperitoneally), and a combination of nickel sulphate and magnesium sulphate. The treatment of all groups was lasted for three consecutive weeks. Liver dysfunction parameters represented by glutamate oxaloacetate transaminase, glutamate pyruvate transaminase and alkaline phosphatase, serum glucose, serum total protein and serum albumin were estimated. Liver glutathione level, catalase and glutathione peroxidase activities were also determined in liver as indicators of oxidative damage. Exposure of rats to nickel caused a significant decrease in body weight and an increase in liver weight compared to the controls. Nickel treatment was also led to high glucose concentration and produced oxidative liver injury characterized by increasing GPT, GOT and ALP activities. Meanwhile nickel administration decreased serum total protein and albumin in animals. In addition liver glutathione level, catalase and glutathione peroxidase activities were diminished due to high lipid peroxidation. However, the administration of magnesium with nickel resulted in a remarkable improvement of the previous parameters comparison with rats treated with nickel alone. Liver histological studies have confirmed the changes observed in biochemical parameters and proved the beneficial role of magnesium. In conclusion, nickel sulphate led to hepatotoxicity and enhanced an oxidative stress by disturbing the tissue antioxidant system, but the Mg coadminstration offered a relative protection for liver against nickel intoxication probably to its indirect action in reducing the levels of oxygen reactive species.

PP-415

RP HPLC determination of benzhexol hydrochloride in tablet formulations and urine

Ashraf Mohamed Ahmed

A new, rapid and sensitive reverse phase HPLC method was developed and validated for the determination of benzhexol hydrochloride in tablet formulations and urine. The mobile phase used is acetonitrile and water, (50 %v/v) and the pH was adjusted to 5 using phosphoric acid. The separation was achieved on C18 reversed-phase column (250 mm x 4 mm i.d.). The flow rate was 0.6 ml/min and UV detection is at 254 nm. The retention time for benzhexol hydrochloride was 7.4 min. The calibration curve was linear up to 40 μg/mL. The mean recovery for benzhexol hydrochloride is 100.16. The assay was precise within day and between days. The method provided excellent sensitivity, recovery, accuracy and reproducibility in therapeutic or toxic concentrations. Common excipients do not interfere.

PP-416

Consumption of crack in urban areas – São Paulo "cracolândia"- crack addiction treatment: therapeutic strategies and legal actions

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Since the late '80s crack consumption has been disseminated in the world. In Brazil the first crack seizure was made in 1992. Since then its use has spread throughout the country, reaching indiscriminately, beyond the urban centers, rural areas and small and medium cities, representing a serious public health. In a recent research, its estimated that 2 % of Brazil's population (people over 16 years) have experienced the crack, representing about 3 million people. In São Paulo state, crack is now considered the second most common drug, losing only to the alcohol. The police strategy is usually focused on struggle against drug's supply chains, arresting the main drug dealers and dismantle gangs. However, the demand continued to grow and problem emerged in small urban areas with large conspicuous consumption of crack. In São Paulo downtown there is small area, that does not include more than 4 blocks, known as "cracolândia, where hundreds of users difficulting drug dealers arrest, somewhat protected by dependents. Adopting a new strategy, the police made a intervention in that area, and in the first 15 days of 2012 were arrested more than 100 drug dealers, representing 50 % of the entire previous year (200). However, the biggest public health problem is far from being solved because users have not received effective treatment for addiction recovery and social reintegration. The most region dependents are in acute stages of addiction and the outpatient treatment has presented no effect. Even those patients are deprived of full understanding and self-determination, involuntary hospitalization can only occur through a complicated procedure, regulated by a Federal Law (which deals with mentally illness), after medical advice. It is estimated a mortality rate of 13 % of these users in just two years, although most of the

cases are linked directly to the atmosphere of violence they face. Thus, this complex issue of drug abuse in urban areas has been intensely debated by all sectors involved seeks the best therapeutic strategies and legal actions to be taken together. However, at the center of this debate is the better regulation of involuntary (or forced) hospitalization in psychotic cases caused by cracks abuse and cases of serious drug addiction. Initially it was only measure of health and protection of life but now it constitutes very controversial issue and there are current discussions in Brazilian national congress together with the medical community and public safety.

PP-417

Forensic toxicological implications of pleural effusion; an autopsy case of drug overdose

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Pleural effusions are occasionally collected as an alternative specimen in toxicological examination, in cases where clean blood samples are not available. We report here a case of death due to the toxicity of multiple psychotropic drugs, and discuss the usefulness of pleural effusions as alternative specimens in toxicological examination.

PP-418

Extraction and estimation of strychnine in a fatal case from liver and urine specimens by GC/ MS

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Introduction: strychnine is a natural al kaloid occurring in the seeds of strychnos nuxvomica and strychnos ignatii. historically strychnine has been used medically and with homicidal and suicidal intent restricted availability has reduced the occurrence of mtentional or accidental poisoning but it has been observed as a contaminant in illicit drugs.
Objectives: this work describe a basic liquid – liquid extraction (LLE) and gas chromatography/ mass spectrometry (GC/ ms) for strychnine in A fatal case from liver and urine.
Materials-methods: - strychnine and flurazepam, 40 % sodium hydroxide and 80 % phosphoric acid and MTBE. Strychnine calibraors were prepared in the range of O-10 mg/L – A basic liquid – liquid extraction 1 LE method was used. (GC/ ms) equipped with an electron ionization source utilizing positive ionization was used for detection.
The initial column temperature was set at 80c◦ and held for 4 minutes. it was than ramped at 20c◦/minute and held for 18 minutes at 290c◦, with a total run time of 30.7minutes – the method was run in SIM mode and set to detect m/z 334.00 for strychnine and m/z 86.oo for flurazepam.
The carrier gas was helium.
Results: 5.2 mg/kg of strychnine was detected in the liver associated with death are in the range 2.257 mg/ kg. the minimum lethal dose is 50–100 mg for adults.
Conclusion: the concentration of strychnine was found to be with in the range associated with fatalities.

PP-419

The Toxic Effect of Prolonged Ultram Administration on Cerebral Cortex of Albino Rats.Toxicological and Histological Study

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Ultram (Tramadol) is a widely used opioid analgesic effective in treating both acute and chronic pains and has acceptable adverse effects. The aim of the present study was to evaluate the cerebrocortical toxicity resulting from short term and long term Ultram administration in to albino rats using biochemical and histological parameters. The study was carried out on 25 adult male albino rats divided into: control group received 0.5 ml /day saline orally by orogastric tube for two months, a short-term Ultram-treated group that received a dose of 30 mg/kg/day (1/10 LD50) for one month orally and a long-term Ultram–treated group that received the same dose for two months. The study revealed that Ultram administration caused a significant elevation of serotonin level in the cerebral cortical tissues of rats which was directly proportional to the duration of Ultram admistration. Histologically, there were many changes in the organization and ultrastructure of neurons in the different layers of cerebral cortex associated with an increased response of the supporting neuroglial cells. Intense neurological tissue lesions were more evident with the two months Ultram dosing than with one month. The correlation between the biochemical results and the histological findings proved that Ultram induced neuronal lesions could be mediated by the elevated cerebrocortical serotonin level which gives serious alarms for reconsidering the rush towards the excessive use of ultram.

PP-420

Epidemiological study of the incidence of suicidal organophosphorus poisoning deaths in Upper Egypt

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Background: Suicide is an important cause of premature mortality, accounting for an estimated 877,000 deaths every year. This important problem ranking among the top ten causes of death for individuals in all ages in developed countries and it is believed that the most dramatic increase will be observed in the Third world countries because of socioeconomic and behavioral factors
Method: This is a retrospective study to evaluate the suicidal cases with organophosphorus (OP) poisoning in Assiut and Sohag, two of Upper Egypt provinces from year 2007 to 2011.. During the abovementioned 5-year period data of interest were collected from their files including age, sex, residence (urban or rural), season, and previous attempts.
Results: There were 67 cases of suicidal deaths with OP poisoning during the period of study represent 35.08 % of suicidal deaths in this period. Two thirds of deaths were females. Age predominance was (20-<= 30 y). There was no obvious seasonal variation in the OP deaths.

Conclusion: the present study indicates that OP poisoning is a grave problem and legislations should be made to avoid easy access to these products.

PP-421

The possible ameliorative effect of melatonin on oxidative stress, delayed apoptosis in rat brain exposed to deltamethrin

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Deltamethrin is a broad spectrum, non- cumulative, fast acting neurotoxic synthetic pyrethroid. The aim of this study was to analyze the neurotoxicity induced by deltamethrin which caused neuro-oxidative stress, histopathological & immunohistochemical changes in adult male Wistar rats and to evaluate the possible ameliorative effect of melatonin. Melatonin (10 mg/Kg, once daily), corn oil (0.005 ml/Kg, once daily), deltamethrin (12.5 mg/Kg, once daily), and melatonin (10 mg/Kg)+deltamethrin (12.5 mg/Kg) combination were given to rats I.P for 8 weeks. By the end of 8th week, rats given deltamethrin alone had significantly higher MDA (malondialdehyde), lower reduce glutathione and catalase levels in the hippocampus and lower ACTH & cortisol hormone levels than the control group. Co- treatment of deltamethrin with melatonin had an ameliorative effect on the previous parameters. Light microscopic investigations revealed that deltamethrin caused marked degenerative changes in the hippocampus & pituitary gland of rats received deltamethrin. Mild degenerative changes were observed in rats received deltamethrin+melatonin combination. Immunohistochemical studies revealed that deltamethrin caused marked expression of P-53 in the hippocampus & pituitary gland. Mild expression of P-53 was observed in rats received deltamethrin & melatonin combination. Thus, deltamethrin can induce oxidative damage in rat brain & melatonin has an ameliorative effect against this damage.

PP-422

Deaths due to Rice Tablet (Aluminum Phosphide) Poisoning in iran 2011

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Nowadays, there are different suicide methods available; however one the most frequent one is a kind of poison which is used as pesticide in agriculture. This substance is called rice tablet mistakenly. The Aluminum Phosohide (AlP) poisoning which leads to a faster than usual death is misdiagnosed with ecstasy misuse. This fact has increased the number of victims in Iran. Rice tablet toxicity is highly dangerous and may cause irreversible effects and even death. The heart and lungs tissues are most influenced by rice tablet in compare to other body tissues. The destruction of the cells of these tissues leads to fluid leakage into extravascular compartments which cause cardiac arrhythmia, dyspnea and eventually pulmonary edema and death. Due to highly toxicity of rice tablet, ingestion of only ¼ of a tablet (about 0.75 g) can cause sever poisoning and death. The most critical factor in the treatment of poisoned people is Time. These organs include brain, heart, liver and lungs. Ingestion of this tablet causes nausea, stomachache, diarrhea, vomiting, dyspnea, feeling cold due to the damage to vasovagal system, thirst, headache, seizure, coma and eventually death that occurs in 1–3 days after ingestion. Specific symptoms of rice tablet poisoning include severe hypoglycemia, hypokalemia and feeling cold. In Iran, the bodies of deceased patients are referred to legal medicine organization with no exceptions for further forensic medicine studies. In legal medicine organization, the first step is to create a file for the deceased patient. After that, examinations begin with external examination. Particularly, the external examinations are important in regard to physical abuses because the most cases of rice tablet suicide have been done due to financial problems and rapes (by their partners or a second person). In external examination, the eyes are hyperemic, the face and body looks rather edematous that is due to fluid therapy and physiologic disturbances, fingertips are cyanotic due to hypoxia. Accurate examination of body surface especially fingers, thighs, genital area and breasts are mandatory in regard to love bite or other rape signs. In Iran before an autopsy examination, rectal and vaginal swabs are always taken for further investigations.

PP-423

Detection of Long-Term Use of Some Psychotropic Drugs in Hair

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Background: the application of hair analysis for the detection of drugs in the human body has become an important method, because it can provide evidence of drug use over a much longer period than the conventional testing in blood and urine.
Aim: The present work was designed to detect amitriptyline HCl and clozapine in hair of albino rats. Hair samples were examined during drug administration and after stopping.
Method: Fifty adult albino rats of both sex were divided into three groups. Each of the first two groups included fifteen rats which were given the therapeutic doses of amitriptyline HCl at a concentration of 3.4 mg/day and clozapine at a concentration of 4.2 mg/day.The third group included twenty rats, which was subdivided into two subgroups, each included ten rats, subgroup (A) which was given distilled water (positive control), and subgroup (B) which was the blank group that lived in the same environmental conditions without being treated with any medications. The drugs were given orally by gavage for three consecutive months. Hair samples were taken on the second day of drug administration then on the fifth day and then weekly till the end of the three months to detect the onset of appearance and the rate of increase of these drugs, and after stopping the drugs, we continued to take hair samples every week to detect the time of drug disappearance. Combination of thin-layer chromatography and color reactions have been used. Samples were confirmed by using high performance liquid chromatography.
Results: The results revealed that, amitriptyline HCl and clozapine were detected in the hair in the second day after drug administration. After stopping drug administration,hair samples taken revealed that, clozapine, can be detected in the hair up to 28 days. Amitriptyline HCl disappeared after clozapine, as it can be detected in the hair up to 35 days after stopping drug administration.
Conclusion: This study can concluded that psychotropic drugs can be detected in hair. Also hair analysis can be used to differentiate between drug consumers, chronic poisoning and drug abusing.

PP-424

Rare Fentanyl related death in northern Greece

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Background: Fentanyl is a synthetic opiate 75–100 times more potent than morphine, with a fast onset and short duration of action. It is typically used for the management of chronic pain and pain during and after surgery. Except of its analgetic and sedative effects, fentanyl produces also euphoria in less extent than morphine. The greater potency, the rapid onset and sometimes the combination with other drugs can lead to sudden death. In this study, we present a fatal case as a result of fentanyl misuse in combination with bromazepam.
Case History: A 27 years old man found dead in a town of Northern Greece. The deceased was a known drug user and had involved in an opiate substitution programme using buprenorphine. No drugs were at the scene of death. Autopsy was performed and biologigal samples were sent for toxicological analysis.
Materials-methods: Post-mortem blood sample of the deceased was analysed by GC-MS. A gas chromatograph Agilent Technologies 7890A with an MS 5975CinrtXL, EI/CI MSD with Triple-Axis detector was used for the analysis. A simple and rapid sample preparation method has been developed.
Results: Autopsy findings revealed acute pulmonary edema with petechial haemorrages of the lungs and epicardium, atherosclerotic lesions of the heart vessels with "binging" of the left coronary artery, splenomegaly and liver liposis. Using the developed methodology, calibration curve was obtained for fentanyl (8 concentration points from 5 to 30 ng/ml and four repetitions for each point). Linearity was found satisfactory. Toxicological analysis of the post mortem blood sample revealed the presence of fentanyl at concentration of 16.7 ng/ml and bromazepam in levels below the limit of quantitation.Fentanyl quantitation was accomplished using selected ion monitoring GC/MS (target ion:245, qualifying ions: 105, 146,189)
Conclusion: In fatalities, without any specific autopsy findings, the toxicological analysis is crucial for determining the cause of death in many cases. The found concentration of fentanyl in blood in combination with the detection of bromazepam in traces indicates illicit fentanyl misuse and death caused by fentanyl and bromazepam intoxication, according to literature. Some researchers concluded that a postmortem blood level above 7 ng/mL is frequently related with illicit fentanyl misuse despite poly-drug intoxication. In contrary to existence of other drugs, other stated that fentanyl blood concentrations around 7 ng/ml or higher have been related with poly-drug deaths. In any case, the determined blood concentration of fentanyl has confirmed the above mentioned cause of death.

PP-425

A Seven years retrospective study of acute poisoning cases investigated by the Forensic Laboratory of Ministry of Justice in Upper Egypt

Nady Sayed Aly, Ihsan Kamil Georgy

Poisoning is an important health hazard and one of the leading causes of morbidity and mortality worldwide. A five year retrospective study of cases of acute poisoning in seven govern orates of Upper Egypt investigated by Assiut forensic laboratory in the period from January 2005 to December 2011 was conducted to investigate the patterns, trends, incidences and types of poisons. The total number of cases was 1530. The geographical distribution was; 14.0 % from Almenia, 44.0 % from Assiut, 19.9 % from Sohag, 16.5 % from Qena, 2.7 % from Aswan, 2.2 % from Red sea and 0.7 % from New Valley. The highest incidence of poisoning was found in 2009 followed by 2006 and 2005. The highest incidence was in males (61.2 %) and the maximum number of cases was found between 21 and 30 years old (30.2 %). Suicide cases represented 49.6 % of total cases 59.9 % of them were females while cases of abuse represented 32.7 % and 95.5 % of them were males. Insecticides were the most common poisons detected with 22.1 % organophosphates and 18.4 carbamates of the total cases. Also they were the main agent used in suicide cases in addition to hair dye ingestion (19.9 %). The use of hair dye for poisoning was common particularly in the south (Qena 81.6 % and Aswan 8.2 %), either for suicide (83.7 %) or attempts of suicide (4.1 %) also for murder in 10.2 % of hair dye poisoning cases. The most common poisons in abuse cases were hypnotic and anti psychotic drugs (20.3 %). The total number of death all above cases (1530). Based on the conclusions of the study various suggestion have been put to decrease the incidence of poisoning cases.(Awareness - reduce the circulation of pesticides without supervision - equipping hospitals to speed rescue)

PP-426

Retrospective postmortem study of insecticide mortality-a study in southern India

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Introduction: Poisoning is global problem and remains a major cause of hospital admissions. Nature of poisoning varies from region to region based on availability of the poison as well as depending upon the knowledge of local population regarding the poisonous nature of these compounds. Insecticides are a major contributor in human poison fatalities worldwide including India. Present study was attempted to study the profile of insecticide mortality in Dakshina Kannada region of Southern India.
Methods: This twelve year retrospective review of insecticide poisoning fatalities was undertaken at Kasturba Medical College. Data was retrieved from the autopsy files, police inquest reports & hospital case records. The chemical analysis report of the viscera was perused to identify the poison consumed.
Results: Among total of 1917 autopsies conducted, 372 cases were due to poisoning out of which 287 cases (15 %) were of death due to insecticides with a predominance of organophosphates. Ninety two percent of poisoning fatalities were due to self-poisoning. Majority of victims were males in their 3rd decade of life. Majority of the cases occurred in villages, more during winter season with indoor consumption of poison in more than 3/4th of cases. Thirty four percent of the victims survived for a period of 6–12 hrs after consuming poison.
Conclusions: Insecticides especially organophosphates are responsible for most of the poison related fatalities. In a developing country like India, where agriculture is the main source of livelihood of the majority, loss of crops due to insects can't be ignored. Hence, instead of banning a particular insecticide, some measures for their safe usage and disposal could be adopted like; proper labeling, imparting awareness programme to the general public about the hazards of insecticides and their safe and proper handling. Extending psychiatric services to the community may help in identifying the high risk individuals who are likely to commit deliberate self-harm. We suggest further studies at multiple centers to observe a trend in order to float a new strategy for controlling this insecticide menace.

PP-427

Organs Transplanted From Intoxicated Donors in North Tunisia

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The increasing gap between the demand for organs for transplantation and the availability of grafts have made it necessary to extend the criteria for "marginal" donors. The use of intoxicated donors to expand the organ pool has been explored.

The purpose of our study was to evaluate short- and long-term results of transplants from cadaver donors who have died of poisoning by various substances.

Among 370 organ donors procured between January 2007 and December 2010, 4 (1.08 %) had brain death from intoxication with the following: organophosphates (n =2); Amanita Phalloides (n =1) or tricyclic antidepressant (n =1). Brain death was pronounced in accordance with Tunisian Law. From these donors 6 kidneys, 1 liver and 8 corneas were procured.

The follow up for patients receiving solid organs was 36.3 months (range, 26–52 months). At 3 months, 100 % of kidneys had normal function. No delayed graft function rejection episodes or major complications were reported in any recipient. None showed evidence of acute or chronic poisoning. Actuarial kidney survival rates were 100 % and 100 % at 12 and 24 months, respectively. The liver recipient was well at the end of follow up.

This experience indicates that in select cases, the organs from poisoned donors function as well in recipients as organs from more conventional sources.

PP-428

Laboratory Tests in Hanging Deaths: Whether Necessary or not?

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Objective: In this study, we described post mortem laboratory findings in hanging deaths and simultaneously followed the legal and judicial records and findings in order to survey how helpful these tests could be.

Methods: This study was carried out on one hundred and fifty six cases of hanging deaths from July 2008 to September 2011. The data were collected from all hanging cases of Mashhad forensic medicine organization. Complete toxicology laboratory tests including Immunochromatography, TLC and GC-MS methods were done. Autopsy and scene investigation findings were also studied from the judicial binders. Results and data analysis were performed via SPSS version 11.5.

Results: One hundred and forty males (89.7 %) and sixteen females (10.3 %) were studied. The mean age was 29.4±10.2 yr. Suicide was almost proven in one hundred and fifty one (96.8 %) corpses but according to primary scene investigations and autopsy findings five (3.2 %) cases were highly suspicious of non-suicidal, which eventually became clear with the help of laboratory tests. Fifty four victims had a positive history of drug abuse and thirteen were alcoholic. Twenty three (14.7 %) victims had unsuccessful previous suicide attempts. No drug metabolites, substance and ethanol were noticed in one hundred and ten (70.5 %) cases. Morphine was the most common substance which was found in forty one (26.3 %) cases. Ethanol and codeine came next and were reported in fifteen (9.6 %) and thirteen (8.3 %) cases respectively. Acetaminophen was found in two blood samples and sertraline and imipramine were both identified in another one.

Conclusion: Although hanging, as the cause of death, can be confirmed by autopsy, but in addition to scene investigation and legal research, toxicology and serologic laboratory tests might be extremely helpful to specify suicidal, homicidal or accidental manners.

PP-429

Drugs of Abuse in Saliva of Drivers: Prevalence Studies

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Introduction: nowadays, detection of drugs of abuse is usual practice in the legal field due to its incidence in several proceedings. Many countries have taken into account the effects that drugs of abuse have on driving. Saliva is a matrix of increasing utility as it is a non-invasive sample that has been tested in international projects such as ROSITA and DRUID.

The objectives of the study focused on the study of prevalence of drugs of abuse in a sample population of drivers of motor vehicles.

Material-methods: 2527 saliva samples came from local police activities, during the years 2008 and 2009 in Barcelona (Spain). Drivers suspected of driving under the influence of drugs had to comply with an analytical road side drug testing.

Methods: A commercial kit immunoassay based was used (Cozart). Kits with positive results to any drug were submitted to the Catalan Institute of Legal Medicine, with an additional saliva sample for confirmation (CG-EM).

Drugs detected included: hashish, cocaine, methamphetamines and amphetamines. Limits of detection of Cozart's test: 31 ng/ml, 30 ng/ml, 50 ng/ml, 50 ng/ml, 50 ng/ml.

Limits of detection of CG-EM: 2,5 ng/ml (cannabis and cocaine) and 5 ng/ml (opiates, amphetamines and methamphetamines).

Results: Results after confirmation showed a hashish prevalence in 1438 samples (56 %), cocaine in 1396 samples (55 %) opiates in 292 (11 %) and amphetamines in 390 samples (15 %). In certain cases two or more drugs were detected, mainly hashish and cocaine.

Conclusions: Results show that hashish is the first consumed substance, followed by cocaine and that consumption of opiates and amphetamines has diminished.

Although it is not random sampling because the samples were obtained from a certain collective, in leisure environment and at certain times, data are valuable in order to inchoate sanctionary proceedings and also as signs of drugs consumption which provide information to both epidemiology and public health.

Key words: drug abuse, saliva, drugs analysis, legal medicine, traffic safety.

PP-430

The importance of toxicological findings and the application of recent technologies to clarify violent deaths

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Background: The contribution of forensic toxicology expertise to aid criminal investigations and clarify the circumstances in which crimes occurred is increasingly valued. This reality confers a great importance to toxicological analysis results.

In order to improve the quality of the results provided by the Forensic Toxicology Laboratory in Portugal (INML, I.P. Centre Branch), recent techniques and new analytical methods, more sensitive and versatile, were implemented, such as ultra performance liquid chromatography coupled with tandem mass spectrometry (UPLC-MS/MS).

We present a case where it was necessary to investigate an alleged suicide by drowning of a 58 year-old female.

Method: Blood samples, after being spiked with internal standard (zolpidem–d6) and prepared using solid phase extraction (Oasis® HLB, 3 cc, 60 mg) were analyzed by UPLC-MS/MS. The chromatographic separation was performed on a Waters Acquity UPLC® HSS T3 column (100 x 2.1 mm i.d., 1.8 μm particles), with a gradient mobile phase consisting of acetonitrile and formic acid 0.1 %, at a flow rate of 0.5 mL/min. The detection was carried out using an Acquity™ TQD tandem - quadrupole MS, equipped with an electrospray ionization (ESI) source operating in positive and negative mode.

Quantification was achieved using multiple reaction monitoring mode (MRM), two transitions for each substance and one for the internal standard (m/z 314.5>235.3).

Results: Blood sample analysis showed the presence in toxic concentrations of several antidepressants such as venlafaxine, nortriptyline, clomipramine and its active metabolite (N-desmethylclomipramine), as well as other medicines at therapeutic concentrations (amitriptyline and chlorpromazine).

Conclusion: The authors developed a sensitive, selective and fast UPLC-MS/MS method, which allows the detection and simultaneous quantification of more than 50 drugs, in order to meet the legal medicine and criminal investigation requests. The results obtained allowed to clarify the cause of death which could then be assigned to a drowning assisted by an excessive ingestion of medicines.

PP-431

Acute oxaxepam overdose – A case report

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Background: Oxazepam (Serenal®) is a benzodiazepine indicated for the treatment of anxiety and insomnia and in the control of symptoms of alcohol withdrawal. The authors present a fatal case involving a 40 year-old male, found dead in his bedroom by his mother, lying on the floor with a puddle of vomit next to his head. He was undergoing psychiatric treatment because he was suffering from depression after his divorce. He had two previous suicide attempts by pill ingestion.

Method: Oxazepam was measured by ultra-performance liquid chromatography (UPLC) coupled with tandem mass spectrometry (MS/MS) with electrospray ionization source in positive ion mode. Samples were prepared using Oasis® HLB solid-phase cartridges (3 cc, 60 mg) and chromatographic separation was achieved on an Acquity UPLC® HSS T3 (100x2.1 mm i.d., 1.8 μm particles) column with a gradient mobile phase of 0.1 % formic acid and acetonitrile at a 0.5 mL/min flow rate. Quantification was achieved by multiple reaction monitoring (MRM). The MS/MS transitions used for monitoring were m/z 287.2>241.1 and m/z 287.2>269.2 for oxazepam, and m/z 290.0>153.8 for diazepam-d5, used as internal standard (IS).

Results: The limit of detection (LOD) and the limit of quantification (LOQ) were 0.8 ng/mL and 2.5 ng/mL, respectively. The method was linear in the concentration range of 1–400 ng/mL with a correlation coefficient of 0.9965. The coefficients of variation obtained for accuracy and precision were less than 10 % and the mean recovery was 68.4 % for the two concentrations levels studied (20 ng/mL and 200 ng/mL). The method showed a satisfactory sensitivity, precision, accuracy, recovery and selectivity.

Toxicological analyses of blood samples showed very high concentrations of oxazepam (6032 ng/mL) and therapeutic concentrations of alprazolam (9 ng/mL), diazepam (30 ng/mL), nordiazepam (224 ng/mL) and fluoxetine (135 ng/mL). Due to higher concentration of oxazepam samples were diluted to suit the working range.

Conclusions: A rapid, selective and sensitive UPLC-MS/MS method using solid-phase extraction was developed for the determination and quantification of oxazepam in blood samples. The validated method has been successfully used to analyze postmortem blood samples in routine forensic investigation. The case of death was determined to be acute oxazepam overdose, and manner of death was listed as suicide.

PP-432

The importance of sending non-biological samples for toxicological analysis - A case report

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Background: Toxicological findings are often the only information available to the expert during a forensic investigation so that he can be elucidated on the cause of death, especially in cases of suspected suicide by drug poisoning. Sending non-biological samples available at the scene to be analyzed can be very important to guide the search of substances potentially involved. The authors present a fatal case involving a 30 year-old male, who was found lifeless. Beside the body there was a plastic cup with a pink residue. In the information available to the coroner it was suggested that the individual was depressed and treated with alprazolam and citalopram. During the autopsy several biological samples (blood, urine and gastric contents) were collected and sent for toxicological analysis, together with the non-biological samples found at the scene.

Method: Chromatographic analysis was preceded by an optimized solid-phase extraction procedure on Oasis® HLB (3 cc, 60 mg) extraction columns. The extracted analytes were analysed using an ultra-performance liquid chromatography coupled with tandem mass spectrometry (LC-MS/MS) with electrospray ionization source in positive and negative ion mode. Separation was achieved with a reversed-phase Acquity UPLC® HSS T3 (2.1x100 mm id, 1.8 μm) column and acetonitrile with 0.1 % formic acid in water as mobile phase, at a 0.5 mL/min flow rate. Gas chromatography headspace injection and detection using a flame ionization detector (GC-FID-HS) was carried out for ethanol determination in blood, urine, gastric contents and the plastic cup with pink residue.

Results and conclusions: The analyses performed by LC-MS/MS and GC-FID-HS confirmed the presence of citalopram, alprazolam, paracetamol and ethanol. The content of the plastic cup was also analysed, after dissolution in a suitable solvent, by LC-MS/MS and HS-GC-FID, and the results demonstrated the presence of same compounds detected in biological samples. The high concentrations of the compounds found in the biological samples and its presence, all mixed together in the cup, were very important to characterize the circumstances of death, assigned to a suicide.

PP-433

Development and validation of an analytical procedure for detection and quantitation of salvinorin a in biological specimens using mixed-mode solid phase extraction and gas chromatography–mass spectrometry

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Introduction: Salvia divinorum is a plant member of the Lamiaceae mint family. This plant is a powerful hallucinogenic whose availability has been rapidly increased, due to the spreading of the "smart shops" and also to its easy purchase by internet websites. Its main active metabolite is the neoclerodane diterpene Salvinorin A and the only known psychoactive terpenoid of Salvia divinorum. Its acquisition is legal in most states of USA and several European countries, including Portugal, and its main consumers are adolescents and young adults. The aim of this work was the optimization and validation of a solid phase extraction procedure that performs rapidly and sufficiently sensitive to detect and quantify low levels of Salvinorin A, in low volumes of vitreous humor, whole blood, pericardial fluid, and plasma matrices using gas chromatography/mass spectrometry.
Methods: The developed methodology utilizes a mixed-mode solid phase extraction procedure coupled with gas chromatography/mass spectrometry operated in selected ion monitoring mode. The method was linear in the range of 5.0 (lower limit of quantitation) to 100 ng/mL, with correlation coefficients higher than 0.99 in all matrices. The limits of detection and quantitation were experimentally determined as 5.0 ng/mL. Intra- and interday precision and trueness were in conformity with the criteria normally accepted in bioanalytical method validation. The sample cleanup step presented mean efficiencies between 75 and 106 % in the different biological specimens analysed.
Conclusions: According to the low volumes of samples used, and the low limits achieved using a single quadrupole mass spectrometer, which is available in most forensic toxicology laboratories, we can conclude that the validated methodology is rapid and simple and it is suitable for the application in the routine analysis of Salvinorin A in both conventional and unconventional biological samples.

PP-434

Fatality due to toluene intoxication

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Introduction: Toluene is an aromatic hydrocarbon, widely used as industrial solvent and as participant in the production of many chemicals such as solvents, paints or glues. Due to its easy acquisition it leads to an almost exclusive use by adolescents solvent abusers, usually discontinued in adulthood. Toluene is a CNS depressant and has similar effects to alcoholic intoxication cases. The initial excitement is followed by a state characterized by headache, dizziness, blurred vision, arrhythmias, and respiratory depression, sometimes progressing to convulsions, coma and death in cases of acute intoxication. The main route of exposure to toluene is via inhalation (sniffing), usually pouring the product into a plastic bag (bagging) and breathing the vapours by tightening the opening of the bag around the mouth and nose. The authors present the case of a man of 53-years-old, polisher, who lived alone, with a history of long-term solvent abuser.
Methods: Toxicological analyses were performed in blood, gastric contents and lung. Drugs of abuse were investigated in blood by an immunoassay procedure and medical substances were extracted from the biological matrix using solid phase extraction (Oasis HLB, Waters) and analyzed by LC-MS-MS. With the purpose of examining unknown solvents we used a procedure that included gas chromatography/mass spectrometry for detection and identification of substances which might be present.
Results: Blood sample did not reveal the presence of drugs of abuse or medical substances. Toluene was detected and confirmed in blood, lung and gastric content. Ethyl acetate was also detected and confirmed in gastric content.
Conclusions: Considering the available information and the toxicological results we believe that the death was caused by the continued ingestion/inhalation of solvents.

PP-435

Evaluation of Acute Alcohol Intoxication Deaths in Bursa Between the Years of 2003–2007

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Background: Alcohol is the most commonly used substance after caffeine and tobacco. When used as an overdose it may lead acute respiratory depression, cardiovascular collapse and death. Methyl alcohol and ethyl alcohol are used as a solvent in the industry. Our aim in this study is to evaluate cases of deaths occuring due to acute alcohol intoxication.
Method: Events underwent autopsy between the years of 2003 and 2007 in the Morgue Department of Bursa, were retrospectively examined and evaluated respect to parameters like age, gender, season, scene, origin, levels of ethyl alcohol and methyl alcohol, systematic toxicological analysis.
Results: In our study 33 cases were methyl alcohol intoxications and 10 cases were ethyl alcohol intoxications of 43 acute alcohol intoxications. 40 cases were male and 3 cases were female. The age distribution of cases was between the ages of 2 and 76, and the mean age of cases is 44,49 13,61. There was significant difference in gender distribution by age groups ($p<0,05$). The origin of death in all of the cases was accident and the scene of crime was determined as home in 20 cases.
Conclusion: In autopsy, as alcohol may be the cause of death, also may accompany and effect to another cause of death. That alcohol is closely associated with violence and it is toxic and lethal in varying amounts according to people, blood levels must be carefully evaluated.

PP-436

Development of immunoassays on biochip platform for the specific and simultaneous screening of chloral hydrate metabolite and ethyl glucuronide in whole blood

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Background: Chloral hydrate is a hypnotic and sedative drug which has the effects of nervous system depressants. It has been implicated in cases of drug facilitated sexual assault when administered in solution with alcohol. Chloral hydrate is rapidly metabolised, the main metabolites being trichloroethanol, trichloroethanol glucuronide (urochloralic acid) and trichloroacetic acid. Both trichloroacetic acid and urochloralic acid are present in blood/plasma at levels equal to or greater than trichloroethanol during chloral hydrate administration. Ethyl glucuronide is a direct metabolite formed in the body by glucuronidation of alcohol following alcoholic beverage consumption and is used as marker to test alcohol use. Even after ingestion of small amounts of alcohol, ethyl glucuronide becomes positive and can be detected through body fluids (serum/blood), tissues and hair up to 80 hours after the completion of alcohol elimination from the body. This study reports the development of target specific immunoassays on a biochip platform for the simultaneous screening of urochloralic acid and ethyl glucuronide in whole blood. This represents a useful analytical tool for applications to forensic toxicology.
Methods: Competitive chemiluminescent immunoassays are employed and they define discrete test sites on the biochip surface. The biochip is also the vessel for the immunoreactions. The Evidence Investigator biochip analyser was used. The system incorporates the dedicated software to process, report and archive the data generated.
Results: The chloral hydrate metabolite assay was standardised to urochloralic acid (trichloroethyl beta D glucuronide) and was target specific, no cross-reactivity with ethyl glucuronide was observed. The ethyl glucuronide assay was standardised to ethyl glucuronide and presented %cross-reactivity of 5 % (methyl glucuronide), 9 % (methylethylglucuronide), no cross-reactivity with urochloralic acid was observed. The limit of detection values (LOD) in whole blood were as follows: 92 ng/ml for chloral hydrate metabolite and 88 ng/ml for ethyl glucuronide. The intra-assay precision and inter-assay precision, expressed as %CV, were for the chloral hydrate metabolite assay <9 % and <10 % respectively and for the ethyl glucuronide assay <8 % and <12 % respectively.
Conclusion: The data indicate applicability of the developed biochip immunoassays to the simultaneous and specific screening of chloral hydrate metabolite and ethyl glucuronide in whole blood. This analytical tool facilitates the test process as only positive test results need to be confirmed.

PP-437

Screening and quantitation of selected opiates, methadone and metabolites in hair

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Background: Alternative specimens are becoming more and more relevant in the field of toxicological analysis. Amongst these samples, hair plays a special role for several reasons, e.g. the fact that its collection is not invasive, its adulteration is difficult, and the windows of detection for certain drugs can be strongly enhanced. A method for the sensitive screening of selected opiates, methadone and metabolites in hair is presented.
Methods: Using only 20 mg of sample, the analytes were extracted overnight with 2 mL methanol at 65°C, to avoid spontaneous conversion of 6-acetylmorphine to morphine, which would impair the identification of heroin consumption. The extracts were further cleaned-up by mixed-mode solid-phase extraction, derivatized with N-Methyl-N-(trimethylsilyl) trifluoroacetamide with 5 % trimethylchlorosilane and analysed by GC-MS. These derivatization conditions hindered the detection of methadone's metabolite EDDP, and therefore in the case of positivity for methadone, a different method for the rapid analysis of those compounds was used, using only 10 mg of sample. The analytes were extracted in 45 minutes, and analysed by GC-MS without derivatization.
Results: The method has shown good sensitivity, with quantitation limits between 0.05 and 0.1 ng/mg for all compounds, while precision and accuracy were in conformity with the criteria normally accepted for bioanalytical method validation. In addition, the conversion of 6-acetylmorphine to morphine was found to be minimal. The method's imprecision was also determined using authentic samples (15 measurements) and excellent results were obtained.
Conclusion: The qualitative and quantitative determination of selected opiates, methadone and metabolites is described. Adequate precision and accuracy were obtained, inclusively in authentic samples. The described procedures use only 20 mg of sample (10 mg for methadone), and low limits of quantitation were achieved, enabling quantitative analysis even in those situations where there is little sample available and/or further exams are necessary, as often occurs in forensic scenarios.

PP-438

Devepopment and validation of UV-spectrophotometric method for simultaneous determination of gliclazide and metformin in its pure forms and human plasma

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Background: Gliclazide (GLC) as sulfonylurea agents in combination with metformin (MET) is commonly used in the treatment of diabetes mellitus. Abuse of these drugs has been a topical issue up to the present-day. The aim of the present investigation is development and validation of UV-spectrophotometric method for simultaneous estimation of GLC and MET in its pure forms and human plasma.
Methods: Reference standard of GLC (purity 99.74 %) and of MET (purity 99.14 %) were used in study. Standard stock solution of GLC and MET were prepared separately by dissolving of standards in ethanol. Each working standard solution (10.0 μg/mL) was scanned between the range 200–400 nm. UV/VIS spectrophotometer (Model 8453, Agilent Technologies, USA) with 1 cm matches quartz cell was used to measure absorbance of the resulting solutions. GLM and MET shows absorbance maxims (λmax) at 228.0 nm and 237.0 nm wavelengths, respectively. The calibration curves (n=6) for GLC and MET were prepared in the concentration range of 2–20 μg/mL. In quantitative estimation of two components by simultaneous equation method, two wavelengths i.e. 228.0 nm (GLC) and 237.0 nm (MET) were selected from the overlain spectra, at which both drugs has absorbance. A set of two simultaneous equations were formed using absorptivity

coefficients at selected wavelengths. Liquid- liquid extraction was performed on blank human blood (5 mL) spiked with GLC and MET at concentrations from 0.5-50 μg/mL. Blood samples were diluted with distilled water (1:1) in advance. GLC spiked specimens were twice extraction into chloroform after hydrolysis with diluted hydrochloric acid at 50–60°C for 15–20 min. For extraction MET from spiked specimens was performed by basic hydrolysis under the same conditions.

Results: The results of optical characteristics, LOD (limit of detection) and LOQ (limit of quantitation) values of pure substances were summarized in Table.

The results successfully have been tested on the blood of patients after oral administration and on the poisoning body blood in overdose cases.

Conclusions: The developed methods were found to be simple, rapid, accurate, precise, economical and give an acceptable recovery of the analytes, which can be directly and easily applied to the analysis of GLC and MET in human plasma.

PP-439

Qualitative and quantitative analysis of glimepiride in blood and urine by thin-layer chromatography and UV-spectrophotometric methods

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Background: Increasing numbers of cases of poisonings by glimepiride (GLM), either attempted suicide or accidental, combined with the absence of reliable methods for the detection of GLM and quantitation in biological matrices is the basis for the need for the development of new analytical techniques for forensic analysis. The aim of the present investigation is to use thin-layer chromatography (TLC) and UV spectrophotometric methods for the estimation of GLM in biological fluids.

Methods: Analysis was performed using drug-free biological fluids: 5 mL of whole blood and 10 ml of urine. Blood samples were diluted with distilled water (1:1). Specimens were spiked with chromatographically pure GLM (purity 99.30 %). After hydrolysis with diluted hydrochloric acid at 50–60°C for 15–20 min and twice extraction into chloroform, GLM was identified by TLC. Standard solution of GLM (1 mg/mL) and Sorbfil chromatographic plates were used for TLC. Optimal systems of solvents were selected by chromatographic mobility of the GLM studied in some solvents with different polarity. Chromatograms were developed with different reagents. For spectrophotometric estimated of GLM in specimens was used a UV/VIS spectrophotometer (Model 8453, Agilent Technologies, USA) with 1 cm matches quartz cell. Standard solutions of GLM in ethanol were prepared with concentrations 1–50 μg/mL and scanned in spectrum mode between 200–400 nm.

Results: The TLC studies showed that the best mobile phase was chloroform:acetone (9:1), Rf value of GLM in five examinations was 0.37±0.02. In the examination of detection reagents for GLM, the spraying of Dragendorff's test solution produced a pale yellow-red spot, Bushard's test solution-brown spot, diphenylcarbazone chloroform solution with following spraying by mercury sulphate - blue spot (remains after drying the plate) from GLM standard solution and spiked specimens extracts. The limit of detection (LOD) of pure GLM by TLC was 0.5 μ/mL, 1.5 μg/mL in whole blood and 1.0 μg/mL in urine. The wavelength maxima for GLC was found to be 227 nm with molar absorptivity of 3.2685×10 4 l/mol/cm. Beer's law was obeyed in the concentration range of 2–40 μg/mL. The LOD and limit of quantification (LOQ) were found to be 0.97 μg/mL and 2.70 μg/mL, respectively. The results successfully have been tested on the blood of patients after oral administration and on the poisoning body blood in overdose cases.

Conclusions: The results demonstrate that proposed method is accurate, precise, and reproducible while being simple and rapid too for the determination of glimepiride in biological fluids.

PP-440

The concentration of glucocorticoide, TNF-alpha and IFN-alpha in mouse serum after single and repeated ethanol administration

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Background: The suicide rate is extremely high in alcohol abusers with depression. Many researchers reported that the depressed patients abused alcohol as a result of much drinking, but others did that repeated alcohol drinking might induce depression. The neuroendocrine immune (NEI) axis in depressed patients alters, since the concentration of hormones and cytokines such glucocorticoid (Gc), interferon (IFN) –alpha and Tumor Necrosis Factor (TNF) -alpha in their serum is different from those of healthy people's. Additionally, some researchers reported that NEI axis of alcoholics might change. However, there were few reports concerning the relation between the symptoms like depression and alteration of NEI axis in alcoholics. Thus, we investigated that the concentration of Gc and cytokines including TNF-alpha and IFN-alpha to clarify the alteration of these substances after chronic alcohol treatment.

Materials and methods: Mice were administrated with 2.0 g/kg ethanol (Alc), and saline as control. Mice were euthanized and blood was collected at 0.5 or 6 hour after the single injection as single model. In addition, other mice were treated every 6 hours for 1 week as chronic, and blood was collected at 0.5, 3, 6, 12 hour later after the final injection. The serum was obtained from the blood. The concentrations of corticosterone, IFN-alpha and TNF-alpha were measured.

Results and conclusion: The concentration of corticosterone did not increase at only single −0.5 hour treatment, but increased at the other time points including chronic −0.5 hour. This suggested that hypothalamic-pituitary-adrenal axis might change after chronic treatment. TNF-alpha in Alc decreased at single −6 hour and increased at chronic from 0.5 to 6 hours after the final injection. In contrast, IFN-alpha in Alc has no significant difference in single, and decreased in chronic from 3 to 6 hours. The expressional pattern of corticosterone, could be different at single and repeated ethanol administration, and could be the inflammatory cytokines of this study. Although it was reported that TNF-alpha and IFN-alpha increased in the patients with depression, IFN-alpha decreased after chronic treatment. Our finding suggested that the expression of inflammatory cytokines of alcoholics might not be same that of mood disorder. In conclusion, our results suggested that NEI axis in alcoholics might change. Additionally, since depressions become worse in alcoholics, the differential dynamics of cytokines in alcoholics compared to healthy people, which were shown in this study, might be one of the exacerbation factor when alcoholics manifested the symptom like depression.

PP-441

Development of simultaneous drug tests with different specificity profiles on biochip platform for the screening of bath salts

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Background: Bath salts are synthetic stimulants that mimic the effects of amphetamine, cocaine and ecstasy. They present a high abuse and addiction liability. The majority of these designer drugs are derived from the parent compound cathinone, the active ingredient of the plant khat (Catha edulis). Some of the chemicals found in bath salts are methylenedioxypyrovalerone (MDPV), mephedrone. The recent proliferation of analogues creates a challenge for the detection. The availability of analytical methodologies enabling the screening of a wide range of these compounds from a single sample represents an advantage in the test process as only positive test results need further assesment with a confirmatory method. This study reports the development of two simultaneous immunoassays with different specificity profiles on a biochip platform for the screening of bath salts including: mephedrone, methcathinone, 3,4'-methylenedioxy-α-pyrrolidinobutyrophenone (MDPBP), MDPV from a single sample using biochip array technology.
Methods: Competitive chemiluminescent immunoassays are employed for the detection. The biochip (9 mm x9mm) represents the chemically activated solid phase where the capture antibodies are immobilised and stabilised defining discrete test sites. The biochip is also the vessel for the immunoreactions. For the detection of bath salts two test sites were applied to the biochip surface. Biochip array technology is applicable to the dedicated analysers Evidence or Evidence Investigator. The systems incorporate the dedicated software to process, report and archive the data generated.
Results: The evaluation of the two simultaneous immunoassays showed different specificity profile. One of the immunoassays was standardised to mephedrone and presented %cros-reactivity of 47 % with R(+)-methcathinone and flephedrone as well as %cross-reactivity of 39 % with methcathinone and 27 % with 3-fluoromethcathinone. The other immunoassay was standardised to MDPBP and presented %cross-reactivity of 75 % (MDPV) and 21 % (naphyrone). The limit of detection values (LOD) in neat sample of whole blood on the Evidence Investigator were 0.16 ng/ml (mephedrone) for the first immunoassay and 4.8 ng/ml (MBDPB) for the second immunoassay. The precision expressed as %CV (n=9) was typically<12 % for two precision materials analysed in seven different runs using different batches.
Conclusion: The results indicate that these two developed simultaneous biochip immunoassays present different specificity profiles for the detection of different chemical compounds found in bath salts. One immunoassay detects mephedrone, R(+)-methcathinone, flephedrone, methcathinone and 3-fluoromethcathinone, while the other immunoassay detects MDPBP, MDPV and naphyrone. This facilitates the screening of these compounds in biological samples.

PP-442

Simultaneous analysis of mephedrone and methcathinone after liquid-liquid extraction and analysis using HPLC-DAD

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The cultural problem of drugs abuse is of critical importance for the public and the authorities. Beta-ketoamphetamines, with methcathinone and mephedrone (4-methylmethcathinone) as best known members of this family, are ones of the most commonly experienced "legal highs". Mephedrone, one of the newly controlled 'legal highs' is a synthetic cathinone derivative, where its history dates back to 1929. Not much data is available about the clinical or toxic effects of the mephedrone. Mephedrone started to appear online and become available in 2007, and it was late April 2010 till mephedrone was added to the list of the illegal drugs of abuse in the UK. Methcathinone is a methyl derivative of cathinone which has similar clinical effects to Amphetamine, to its methylated form (i.e.: mephedrone) and to cathinone. A method for the liquid-liquid extraction (LLE) and simultaneous analysis of the drug mephedrone with the drug methcathinone was developed and validated. LLE of these drugs from biological samples (whole blood or serum) and reverse phase HPLC-DAD were optimized for qualitative and quantitative analysis. Linearity of the method was obtained with R2>0.99 for both drugs over the specified range (0.1-10 μg/mL). The accuracy was assessed by calculating percentage recovery at different concentrations for both drugs. The method was found to be accurate with recovery values for both drugs ranging between 83-109 %. For repeatability and intermediate precision tests, RSD values were<= 8.4 %. The method was found to be specific for both drugs with a limit of quantitation (LOQ) ranging between 0.036 and 0.043 μg/mL and limit of detection (LOD) ranging between 0.011 and 0.013 μg/mL for mephedrone and methcathinone, respectively.

PP-443

Highly Sensitive Rapid Quantitative Analysis Of Psychotropic Preparations By Thermodesorption Surface-Ionization Spectrometry

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Background: Highly sensitive analysis of psychotropic preparations and rapid determination of their quantity in biological samples is a topical and actual problem of present-day legal toxicology. The aim of this work is to develop a new highly selective and sensitive atmosphere pressure thermodesorption surface ionization spectrometry for detection and rapid quantitative analysis of psychotropic preparations in biosamples.
Materials and method: The chromatographically pure and commercial samples of psychotropic preparations have been studied, as well as extracts of blood, urine and postmortem materials. The psychotropic preparations were extracted from biological samples by liquid-liquid methods. Developed at the laboratory, a simple-in-design atmosphere-pressure thermodesorption surface-ionization spectrometer (APTDSIS) has been used. Its operation is based on the fact that the thermodesorption spectra of psychotropic preparation molecules have characteristic features and high efficiency (up to 0.2). Unique selectivity (molecules of simple gases and organic solvents are ionized with efficiency by 106–1010 less than that of molecules under study) of the surface ionization method allows extract analysis in air without preliminary chromatographic separation.
Results: The analytical feasibility of APTDSIS is demonstrated for neuroleptics – derivatives of butyrophenone, phenothiazine, tricyclic and tetracyclic antidepressants, tranquilizers – derivatives of benzodiazepines. A database of over 20 thermodesorption surface-ionization profiles and calibration curves of psychotropic preparations has been created allowing identification and quantitative analysis of substances in biosample extracts. The thermodesorption spectra of studied preparations are characteristic; the maximum temperature Tmax is 180-1900 C for butyrophenone derivatives, 130-1500 C for phenothiazine derivatives and 110-1200 C for tricyclic and tetracyclic antidepressants. Tranquilizers have intermediate Tmax from 120 to 1500 C. The linear dynamical interval of calibration curves is within the linear range ~3.5-5 orders of a magnitude.

Limits of detection are from 0.4 (chlorpromazine) to 2.7 (haloperidol) pmol for neuroleptics, from 0.15 (amitryptiline) to 2.3 (maprotiline) pmol for antidepressants and from 1.0 (medazepam) to 3.4 (diazepam) pmol for tranquilizers. The mean time for one analysis of extract is ~3 min. The results are compared with those of TLC and GC/MS.
Conclusion: High analytical feasibility of the APTDSIS method in combination with relative simplicity, cheapness and rapidity allows its effective application in toxicological laboratories for detection and quantitative analysis of psychotropic preparations.
Key words. Toxicology, Psychotropic preparations, APTDSIS

PP-444

Stability of MetHb and COHb in blood samples using AVOX oximeter

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We have investigated the stability of MetHb and COHb in blood, stored at 4°C.
Materials-methods: (Experiment 1) MetHb was prepared by addition of excess amounts of NaNO2 in blood. The samples for MetHb measurement were prepared by the serial dilution of oxidized blood, and stored at 4°C, without any preservation. We used both AVOX 4000 (AVOX) portable oximeter and the conventional spectrophotometric method, for measurement of MetHb in blood [1]. We have compared the value of MetHb obtained the day of sample preparation and later.

(Experiment 2) We investigated 20 blood samples obtained from fire-related deaths or carbon monoxide poisoning autopsy cases (COHb>10 %), and stored at 4°C up to 12 months. The value of COHb was measured by AVOX. The value of COHb obtained at the time of autopsy was compared with that obtained following the storage at 4°C.
Results and discussion: There was good correlation between the MetHb values obtained by AVOX and by the conventional method during the experiments. The AVOX is applicable to the measurement of postmortem MetHb concentration. The value of MetHb decreased gradually within a week, as reported previously, as it is unstable during the storage at 4°C [2]. On the other hand, the values of COHb were stable up to 12 months. The usefulness of AVOX in COHb measurement in postmortem blood samples has been presented previously [3].

We have to pay attention to the instability of MetHb value for its forensic toxicological evaluation.
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PP-445

Determination of pirlindole in biological fluids

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Introduction: Pirlindole(Lifril, Pyrazidol), a tetracyclic drug, is known to have a reversible and short-lived monoamineoxidase inhibitory activity. It is structurally and pharmacologically related to metralindole. Cases of acute poisoning. In this situation, current methods are early detection of drugs in biological fluids.
Methods: Took 2 ml of blood (urine of 5 ml) and have finished pH to 8,0-9,0 0,1 N solution NaOH and extracted with 5 ml a ethyl acetate. Chemico-toxicological investigations of pirlindole have been carried out by TLC, UV-spectrophotometry, thermodesorption surface - ionization spectroscopy (TDSIS). The detection of pirlindole by TDSIS, both as pure standards and in biological isolates is reported here for the first time.
Results: 52 % of pirlindole it will be manufactured from blood, from urine – 76 %. Method TLC –was recommended. System is ethyl acetate - ethanol - 25 % NH4OH (8,5:1:0,5), for detecting: Bushard's reactive, reactant of Busharda, Dragendorf's reactive and etc. Rf 0,40-0,42 (sensitivity 0,4 mkg). Method UV- spectrophotometry can be used for detection pirlindole in solutions and in extracts from blood and urine the. The spectral characteristic of solutions pirlindole in ethanol has a light-absorbing maximum at length of a wave of 232, 290 nm. For the purpose of detection pirlindole in biological substrat are used method TDSIS. The thermodesorption range pirlindole has characteristic peaks at 102±15 and 171±10°C (sensitivity 0,1 mkg/mL). An offered technique of isolation, detection and definition pirlindole approved on an expert material.
Conclusions: The investigations led to the conclusion about the suitability of these methods of isolation, identification and quantitative determination of pirlindole in biological fluids. The results of the given investigation have been introduced into practice of all forensic-chemical and medical laboratories of the Republic of Uzbekistan.

PP-446

"Legal Highs" purchased from the internet in Germany

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Introduction: A lot of dangerous and insufficiently studied designer drugs were observed on the drug market within the last few years. Mixtures of different centrally active compounds are often declared as "bath salt", "incense", "plant food", "bong cleaners" or are marketed as "research chemicals" in head-shops and on the internet.
Methods: Indicating a private address several products were purchased via the internet. The products were analyzed by gas chromatography – mass spectrometry using computer-assisted database search (especially Maurer, Pfleger, Weber-database and Roesner, Junge, Westphal, Fritschi-database) and potential hits were checked for plausibility.
Results: The analysis of 86 samples revealed centrally acting compounds (including caffeine) in 98 % (69 % of all samples positive for caffeine). In 14 % of the samples drugs regulated by the German Narcotics Law (Betäubungsmittelgesetz, BtMG) were found including 2,5-dimethoxy-4-methylamphetamine, amphetamine, etilamphetamine, N-benzylpiperazine, mephedrone, methcathinone, and phenobarbital. In 37 % of the samples substances regulated by the German Medicinal Products Act (Arzneimittelgesetz, AMG) were found (e.g. ephedrine, pseudoephedrine, methylephedrine, synephrine or local anesthetics). Other interesting pharmacologically active ingredients found were 4-methylcathinone (n=13), flephedrone (n=8), trifluoromethylphenyl-piperazine (n=7), methylone (n=5), butylone (n=2), hordenine (n=2), and harmane (n=2).
Conclusions: Analytical results of recently seized "legal highs" and "research chemicals" showed that most of the samples contained pharmacologically active substances and according to the Medicinal Products Act, § 5 (2), these substances not covered by the BtMG can be classified as "unsafe" drugs. The distribution of unsafe drugs is illegal in Germany. However, the easy availability of real or potential drugs has to be seen critically. Little is known about the toxicological and pharmacological effects of those single substances let alone of interactions in mixtures of such substances. In chat rooms users advertise for such drugs and blaze abroad their own experiences. In forensic as well as in clinical toxicological laboratories we should be prepared for the analysis of such substances in biological samples.

PP-447

Simultaneous determination of selected antipsychotic drugs in human plasma using solid-phase extraction and gas chromatography-tandem mass spectrometry

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Background: Antipsychotic drugs are prescription medications used to treat psychotic disorders, such as schizophrenia, schizoaffective disorder, or psychotic depression. These compounds may be relevant in forensic intoxications, due to their widespread use, their small therapeutic window or the onset of toxic side effects. Also, establishing correlations between plasma concentrations and pharmacological effects is difficult, perhaps due to individual genetic differences. In this work it is described a method using gas chromatography coupled to tandem mass spectrometry for the simultaneous determination of seven selected antipsychotic drugs in human plasma (chlorpromazine, haloperidol, cyamemazine, clozapine, olanzapine, levomepromazine and quetiapine). Promazine, protriptyline and chlorpromazine-d3 were used as internal standards.
Methods: Plasma samples (0.5 mL) were diluted with 8 mL of phosphate buffer and spiked with 50 μL of the internal standards working solution. The mixture was homogeneized and added to StrataTM extraction cartridges previously conditioned with methanol and water. The columns were washed sequentially with deionized water, 0.1 M hydrochloric acid in water and 0.1 M hydrochloric acid in methanol. The analytes were eluted with 5 % ammonium hydroxide in methanol. The dry extracts were dissolved in 65 μL of MSTFA with 5 % TMS, and derivatization took place in a dry bath at 85°C for 45 min. An aliquot of 2 μL was injected into the GC-MS/MS instrument in the splitless mode.
Results: The method was linear from the LLOQ (2 to 40 ng/mL) to 600 ng/mL (80 ng/mL for haloperidol and olanzapine), with determination coefficients higher than 0.99 for all compounds. The limits of detection were between 1 and 20 ng/mL. Intra- and inter-day precision and accuracy were below 15 % for all analytes at all tested concentrations. Recoveries ranged from 83 % to 95 %.
Conclusions: The developed method was considered adequate for application in routine analysis, taking into account the low volume of sample used (0.5 mL), detection limits, precision and accuracy. In addition, the expected concentrations in both clinical and forensic scenarios are within the dynamic range of the assay.

PP-448

Victims of violent death: what part does blood alcohol concentration play?

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Introduction: Tendency towards impulsive and/or violent behaviour is exacerbated after alcohol consumption. The relationship between alcohol/violent deaths is not accurately described in medical literature, and generally alcohol is seen only as a trigger agent of aggressive behaviour. The role of alcohol as a risk factor for victims of non-natural causes of death has been insufficiently researched. Thus, our goal is to check what role does the influence of alcohol play in victims of violent deaths as homicides, suicides and accidents.
Method: Retrospectively, the medical records of 805 necropsies performed at the Institute of Forensic Medicine (IML) of Franco da Rocha, in the period between 2001 to 2007 were reviewed. The variables studied were sex, age, types of violent death and alcohol levels - these were considered positive when above 0.3 mg / ml.

The dosage of alcoholicity was performed using samples of 10 ml of blood collected during necropsy, collection from the cardiac chambers (LV) or from the right femoral vein being preferred. Alcohol dosages in the blood samples were done at the Forensic Toxicology Center of the IML by gas chromatography, using the technique of separation "head space" and double column.
Results: The toxology test for blood alcohol concentration (BAC) was available for 488 (79.1 %) of 617 necropsies. Of the 617 subjects studied, 532 (85.7 %) were male and 85 (13.8 %) females (with high rates of adolescents). The vast majority (n=230) died as a result of homicide, and 40.5 % of these cases victims presented alcoholicity levels above 0.3 mg / ml blood. Traffic accidents came next, accounting for 181 deaths, with 41 % of victims presenting positive levels of alcoholicity
Discussion: High blood alcohol concentration (BAC) on the victims was associated mainly with the genesis of accidents (drowning, falls, traffic, choking aspiration, i.e. smothering) and murder (with impaired ability to resist or by causing release of impulses to engage in violent situations), in about 40 % of cases.
Conclusion: Our results indicate that alcohol abuse is a risk factor for victims of violent death. In these cases alcohol has two types of action. Direct: contributes to accidents of various kinds - from traffic by decreasing powers of concentration, attention and loss of reflexes, to other types of accidents such as drowning, falls, swallowing disorders causing airway obstruction and mechanical asphyxia. Indirect: making it easier for individuals to engage in conflict (and thus become victims of crimes).

PP-449

Preparation and characteristics of anti-LSD monoclonal antibodies

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Objective: To prepare anti-LSD and its metabolite monoclonal antibodies, and identify their immunological characteristics.
Methods: LSD was oxdied to 2-oxo-3-hydroxy-LSD. After introduce an active group to 2-oxo-3-hydroxy-LSD, It was linked to KLH and bovine serum albumin (BSA) to form a complete antigen. Immunized the Balb/c mice with the complete antigen, the hybridoma cell line which could secrete anti-LSD monoclonal antibodies was acquired via cell fusion and screening.
Results: One cell line named as 8B6 was finally obtained with high sensitivity for detecting LSD and 2-oxo-3-hydroxy-LSD at10.0 ng/ml. It is showing no any cross reaction to 40 kinds of control substance.
Conclusion: The monoclonal antibody made by 2-oxo-3-hydroxy-LSD-KLH can detect LSD and 2-oxo-3-hydroxy-LSD simultaneously with high sensitivity and specificity.

PP-450

Developing of the Protein Chips for Drugs Quantitative Assay

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Objective: To develop a high throughput quantitative assay for detecting drugs in human body liquid samples.
Methods: By using nitrocellulose membrane as the matrix for protein chips, we treated the membrane with to generate active groups for protein binding. After dispersing the conjugates of the drug molecules with the carrier protein, the membrane was blocked. Different antibodies for drugs was labeled with fluorescent dye CY5, it will bind to the conjugates to generate fluorescent signal when add the samples without drugs. But if there are some drugs in the sample, the drug will competitively binds to the conjugates and decrease the fluorescent signal. The fluorescent readers can analysis the intensity of the signal and quantitative assay the concentration of the drugs in the samples.
Results: Totally 506 samples tested by the protein arrays for drugs with correlation to GC/MS assay more than 88 %. The results showed it can specifically detect such as morphine and methamphetamine and other drugs without any cross reactions. The sensitivity of the assay can reach 10 ng/ml, with 10 times higher than the gold colloid rapid test. The stability experiment showed the chips for drug abuse detection can maintain its effect for at least one month at 45°C.
Conclusion: The protein chips is a effective, accurate throughput assay for detecting drugs in human samples.

PP-451

Determination of Diazepam and its Glucuronide Metabolites in Human Urine by LC-MS/MS

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A sensitive and specific liquid chromatography-tandem mass spectrometry (LC-MS/MS) was developed and validated for the direct analysis of diazepam, oxazepam-glucuronide, temazepam-glucuronide, oxazepam, nordiazepam, and temazepam in human urine. 1 mL of urine sample was mixed with 1 mL of ammonium acetate-acetic acid buffer (pH 6.0), and then purified by solide-phase extraction (SPE). The SPE cartridge (Oasis HLB) was conditioned before use with 1 mL of methanol and 1 mL of purified water. The washing solution were 1 mL of 5 % methanol solution (with 2 % ammonia) and 1 mL of purified water, and the elution solvent was 1 mL of methanol. Separation was achieved on a C18 column (Waters Xterra® MS C18, 3.5 μm×2.1×150 mm) kept at 45°C, with a mobile phase flow-rate of 0.2 ml/min and elution gradient composed of solvent A (2 mM ammonium formate and 0.05 % formic acid in water) and solvent B (2 mM ammonium formate and 0.05 % formic acid in acetonitrile). Detection was achieved using a LC-MS/MS system equipped with an electron spray ionization (ESI). Multiple reaction monitoring (MRM) mode was used to analyze the target compounds. Extraction recoveries were 96.15-118.82 % for all the analytes. The method showed excellent intra-assay (relative standard deviation (RSD) <10 %) and inter-assay precision (RSD<20 %) for quality control (QC) samples spiked with oxazepam-glucuronide and temazepam-glucuronide at concentrations of 50, 200, 500 ng/ml, with oxazepam at concentrations of 20, 800, 2000 ng/ml, and with other compounds at concentrations of 5, 200, 500 ng/ml. The calibration curves were linear with coefficient of determination r2>0.99 over the range investigated (5-1000 ng/ml for oxazepam-glucuronide and temazepam-glucuronide, 0.5-1000 ng/ml for nordiazepan, temazepan, diazepam, and 2-4000 ng/ml for oxazepam). Limits of detection (LOD) were 0.4 ng/ml for oxazepam, 0.1 ng/ml for norazepam, temazepam and diazepam, 2 ng/ml for oxazepam-glucuronide and temazepam-glucuronide. The present assay was applied to measure diazepam and its glucuronide metabolites in human urine obtained from three volunteers after oral administration of 5 mg of diazepam. The results showed that, diazepam and the free forms of its metabolites (nordiazepan, oxazepam and temazepam) could be detected and quantified 4 days and 8 days after administration, respectively, while oxazepam-glucuronide and temazepam-glucuronide could be detected and quantified at least 15 days after administration.

PP-452

Pesticide poisoinings in the region of Ankara and surrounding cities, Turkey, within the period of 2001–2011

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Pesticides have been widely used and available in open markets and pharmacies in all over the country. The intentional/unintentional poisoning with these compounds is one of the most common causes of chemical poisoning especially in rural areas where agriculture is a prominent one. Pesticide poisonings reported by various countries showed that it is a worldwide health problem which kills 250,000-370,000 people each year.

In this study, medico-legal deaths between 2001 and 2011 from Ankara and surrounding cities in Turkey were investigated retrospectively. The autopsies were carried out partly by Ankara Branch of Council of Forensic Medicine. Data was collected from reports of Morgue Department whose toxicological analyses were performed in Chemistry Department. The data revealed that 70 cases (65 %) out of 10720 autopsied cases were attributed to fatal poisonings of pesticides. The age range was from 1 to 80 years (mean±SD, 41.33±17.42). Most of the cases were reported from Ankara (60 %). Insecticides were the highest cause of fatal pesticides poisonings (94 %) and most of them were organophosphorus insecticides (63 %). The percentages of pesticide-induced deaths are pretty high in our society and should not be underestimated. Intensive intervention efforts to reduce occupational and intentional pesticide poisoning are also urgently needed in Ankara and surrounding area.

PP-453

Factors Affecting The Respiratory Air Alcohol Level

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Objective: Alcohol usage is very common in our country. Alcohol can cause or facilitate traffic accidents, forced or natural deaths and other criminal cases. Professional drivers must not receive any alcohol according to 97th Article of the Highway Traffic Regulations. On the other hand blood alcohol level should be under % 50 mg (0,5 promil g) for amateur drivers to drive a car. This research aim is whether received medicine or non-alcoholic beverages (fermantative nutrients) cause false positive results in breathalyzers or not.
Method: In this research we use non-alcoholic fermantative nutrients and 6 medicines. After usage of these materials we measured breath alcohol level in every 1, 3, 5, 15 and 30 minutes with breathalyzer.
Result: False positive results were obtained only in Dişinol and cologne. Other drugs and nutrients were not caused any positivity in breathalyzer.
Conclusion: At the end of research we observed that some substance caused false positivity results even if people did not use any alcohol. If there is any suspicion for the measured values then measurements should be repeated. And if the person can not be sure of the trustworthiness of breathalyzer measurements, person should be consultated the other centers without losing time

PP-454

Determination of non-steroidal anti-inflammatory drugs in human plasma by LC-MS-MS with a hydrophilic polymer column

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Six non-steroidal anti-inflammatory drugs (NSAIDs) in human plasma samples were analyzed by liquid chromatography (LC)-electrospray ionization-tandem mass spectrometry (MS-MS) using a hydrophilic polymer column (MSpak GF-310 4B), which enabled direct injection of crude biological samples. Separation of the six NSAIDs, alminoprofen, flurbiprofen, ibuprofen, pranoprofen, tiaprofenic acid and zaltoprofen, was carried out using gradient elution with 10 mM ammonium acetate/ acetonitrile. The mass spectra obtained by LC-single stage MS showed base peak ions due to [M+H]+for alminoprofen, zaltoprofen, tiaprofenic acid and pranoprofen, and [M–H]– for ibuprofen and flurbiprofen. Product ions were produced from each [M+H]+or [M–H]– ion in the tandem mode. Quantification was performed by multiple reaction monitoring with switching from positive to negative ion mode and vice versa. All drugs spiked into plasma showed recoveries of 77.0–88.2 %. The regression equations for the six drugs showed excellent linearity in the range of 0.01–25 μg/ml of plasma, and limits of detection were in the range 0.002–0.005 μg/ml. Limits of quantitation for the drugs were 0.01–0.02 μg/ml. Intraday and interday coefficients of variation for all drugs in plasma were not greater than 8.1 %. The accuracy of quantitating the six drugs was in the range of 94.5–110 %. Data obtained from actual determinations of the levels of alminoprofen, pranoprofen and ibuprofen in human plasma after oral administration were also presented.

PP-455

Multiple Organ Necrosis Caused by Caustic Substance Ingestion: Case Report

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Background: Spectrum of injuries ranging from minor esophageal/ gastric irritation to perforation can be seen in the gastrointestinal system after oral intaking of caustic substances. In the study, a caustic substance ingestion case with the origin of suicide was presented in which lethal multiple organ necrosis have developed and discussed the case's properties according to the literature data.
Case: A 38-year-old patient who ingested 500 ml of bleacher (sodyum chloride) and muriatic acid (hydrochloric acid) for the purpose of suicide was brought to the emergency department with symptoms of dyspnea, abdominal pain and agitation. Patient's general condition deterioated rapidly resulting in acute abdomen. Then a refractory acidosis developed which responded for a short time to treatment. After hemodynamic stabilization, laparotomy was performed and it was seen that all stomach had melted and the chemical substance had reached duodenum, jejenum and leaked into abdomen and caused necrosis in diaphragm, liver, spleen, pancreas, transverse colon and splenic flexura. The patient died due to multiorgan failure on second day of postoperative period inspite of all treatment approaches.
Conclusion: Caustic substance ingestion is still a difficult medical condition with high mortality although modern therapeutic methods are available.

PP-456

Effect of short-term exposure to dichlorvos on rat hepatocytes: Molecular and histopathological approach

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Background: Organophosphate (OP) insecticides are the most widely used in both agricultural and landscape pest control. The mortality and morbidity rate of OP poisoning is high. The aim of the present study is to investigate the effect of acute organophosphate exposure on hepatocyte and to examine caspase 1 and caspase-3 gene expression, and cell apoptosis related genes as p53, Tumor Necrosis Factor-alpha, Hypoxia Inducible Factor 1-alpha expression changes in rat hepatocyte.
Material-methods: 10 adult Wistar Albino female rats weighing 250–300 g were divided into control (n=5) and experiment (n=5) groups. In experimental group, rats were treated 25 mg/kg of dichlorvos (Bayer DDVP EC 550, Bayer) in corn oil by 16 gauge oral gavage tube. In control group, rats were treated only 2,5 ml corn oil by oral gavage. After seven days, all of the rats were sacrificed by cervical dislocation

under anesthesia. The liver was removed and divided into fragments. Hepatocyte density and histopathological examination were performed in fixed liver tissues. For this purpose, sections were taken and stained with hematoxylene-eosin. A part of the liver was used for gene expression analysis. Total RNA was extracted from the liver tissue using an RNA isolation reagent via manufacturer's instruction. Changes in mRNA levels, detected using semi-quantitative reverse transcription–polymerase chain reaction, were calculated as the proportion of the target gene amplification products to the amplification products of the housekeeping gene GAPDH.

Results: Hepatocyte density were decreased in experimental group compared to control group ($p<0,05$). The histopathological changes, such as portal inflammation and picnosis were observed in liver sections of experimental group. According to molecular genetics analysis, Caspase 1, Caspase 3, and p53 gene expression were increased in liver tissue after dichlorvos treated rats compared with the control group. There were no expression changes for TNF-Alpha and Hif1-Alpha gene expression level among groups.

Conclusion: Acute organophosphate exposure leads to loss in hepatocyte. Correlation with histopathological results, OP compound-induced cytotoxicity may be modulated through multiple sites including caspase1-3 pathway and also changes in the quantitative criteria of molecular markers of apoptosis in the rat hepatocytes on formation of behavioral skills were characterized by increased in caspase expressions in the hepatocyte.

PP-457

Post-mortem blood concentrations of antidepressants in femoral blood - retrospective study in the South of Portugal

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Background: Depression is a common mental disorder, chronic or recurrent, usually treated with antidepressants. These compounds can lead to considerable adverse drug reactions, side-effects and interactions, even at therapeutic concentrations. Their quantitation in biological fluids is often deemed necessary in forensic toxicology laboratories to help identifying the cause of death. Therefore, post-mortem reference concentrations are a valuable source of information to compare toxicological findings between similar cases.

Positive post-mortem blood samples for antidepressants were selected among all the cases analyzed in Laboratory of Forensic Toxicology of South Branch of National Institute of Legal Medicine (NILM) in Portugal, since 2009. Quantitative results were listed with other relevant information, including gender, age, circumstances and cause of death, as well as the presence of other substances.

Method: The blood samples were prepared using solid phase extraction (SPE) and analysed with a gas chromatographic-mass spectrometric (GC-MS) method in SIM mode, fully validated for the detection and quantitation of fifteen antidepressants (amitriptyline, clomipramine, citalopram, dothiepin, fluoxetine, imipramine, maprotiline, mianserin, mirtazapine, nortriptyline, paroxetine, sertraline, trazodone, trimipramine and venlafaxine).

Results: During the studied period, a total of 4080 cases were screened for therapeutic drugs, and 519 (13 %) were positive for at least one of the fifteen antidepressants analysed. Among the positive cases, only 18 % had information of possible intoxication. The majority of positive cases was found in the elderly (61 % were older than 50 years old) with a evenly gender distribution (52 % male / 48 % female). Sertraline was identified in 96 cases (18 %), followed by citalopram (84 cases, 16 %), trazodone (79 cases, 15 %) and venlafaxine (79 cases, 15 %). In 52 % of the positive cases more than one substance was detected. The reported levels of amitriptyline, clomipramine, mianserine and trimipramine were above toxic concentrations in more than 50 % of the cases. The distribution of the quantitative results for each compound is presented, together with the causes of death.

Conclusions: The analytical method was successfully applied in the Proficiency Test for Tricyclic and other Antidepressants (TCA and TDMD from Arvencom GmbH), and proved to be sensitive and specific for application in forensic routine analysis. The information collected can be used to provide a correlation between the presence of antidepressants and the cause of death, even at therapeutic levels. This study can enhance the level of collaboration between forensic pathologists and toxicologists for the interpretation of cause of death.

PP-458

Simultaneous determination of 18 cardiac glycosides in human plasma by turbo spray ionization liquid chromatography/tandem mass spectrometry

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Background: Cardiac glycosides present several problems in clinical practice due to their low therapeutic concentrations and their low therapeutical index. In consequence a precise and reliable method for identification and quantification in human serum samples is needed.

Method: Aim is to develop a method for liquid chromatography/tandem mass spectrometry for the simultaneous identification of cardiac glycosides and some of their metabolites in human serum samples.

The following analytes are included: digoxin, digitoxin, digoxigenin, digitoxigenin, digoxigenin-bisdigitoxoside, digoxigenin-monodigitoxoside, β-methyldigoxin, convallatoxin, cymarin, gitoxin, gitoxigenin, lanatosid c, oleandrin, ouabain, ouabagenin, proscillaridin a, strophanthidin, strophanthidol and the internal standard digoxin-d3. A mixture of diethylether, chloroform and isopropanol is used for liquid-liquid-extraction at pH 9.5. Analytes are separated on a phenylhexyl column using gradient elution with solvent A consisting of H2O and methanol (95:5) and solvent B consisting of acetonitril and methanol (50:50). 10 mM of ammonia formate and 0,1 % of formic acid have been added to both solvents to optimize formation of ammonia adducts and protonated adducts. Identification is achieved by two specific ion transitions of each analyte in the MRM mode.

Results and conclusions: Analyte identification and quantification in human plasma can be achieved in a single run using LC/MS-MS. Linearity is shown from subtherapeutic to overdose concentrations. LOD were at least 1 ng/ml (signal-to-noise >3). LOQ is 0.09 – 0.5 ng/ml for all analytes except ouabain (0.59 ng/ml). Precision and accuracy were <15 % for all analytes. Recovery rates ranged from 68-113 % (gitoxin 20 %). The whole validation process was executed according to international guidelines.

PP-459

Determination of human and synthetic insulins and problems in forensic toxicology: comparison of immunoassay and liquid chromatographic mass spectrometric results

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Background: Possible fatal complications of human insulin and its synthetic analogues like hypoglycaemia in overdose or criminal cases require precise classification and quantitative determination of these drugs both for clinical purposes as well as for forensic toxicologists. However, the methods routinely used to measure human insulin are almost invariably different types of immunoassays. These assays do variably detect synthetic insulins or lead to misleading results due to cross-reactivity and are disturbed by proinsulin-like molecules. Another problem in forensic toxicology is the rapid degradation of human insulin and its synthetic analogues in blood after death.
Methods: Serum samples of 264 diabetics which were on therapy with human or synthetic insulins and of 75 non-diabetics were measured for human insulin both with a chemoluminescence microparticle immunoassay (CMIA) and a LC/MS-method, the latter could also detect synthetic insulin analogues (lispro, detemir, glulisine, aspart, glargine) after immunoaffinity precipitation and reversed phase liquid chromatography with the internal standard bovine insulin. Post mortem samples (blood from the femoral vein, vitreous humour, urine) were also measured.
Results: Overall, human insulin concentrations measured by CMIA were significantly higher (mean value 41.9 μU/ml) than measured with LC/MS (mv 25.2 μU/ml). However, CMIA did not allow differentiation of human and synthetic insulins and in the 161 cases without any synthetic insulin findings, human insulin concentrations were higher with LC/MS (mv 29.4 μU/ml) than with CMIA (mv 24.3 μU/ml). Both methods are not linearly related (r=0.78, Bland-Altman plot with an acceptable deviation of 20 %). Values for human insulin measured by CMIA could not be transferred to synthetic insulin concentrations due to the different cross-reactivity of the insulins.After death, inuslins can not be detected in blood, however, in overdose situations, vitreous humour and urine by detection of the metabolites can be used to detect the misuse.
Conclusion: In cases of suspected overdose with insulins it is recommended to measure with LC/MS for an unambiguous determination of human or synthetic insulins. Especially in forensic cases the differentiation of human and synthetic insulins is important.

PP-460

Cyanide-intoxication related fatalities in Istanbul (2008–2009)

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Although being the most rapid acting poison known, fatalities due to intoxication by cyanide are rare. The reason for this is generally attributed to the difficulty in obtaining this poison. In this retrospective study, 9 cases of cyanide fatalities detected in autopsies performed between the years 2008–2009 were analyzed. All cases were male. The origin of the intoxication was suicide in 6 cases and accident in others.

Bright red colors of lividity, generalized hyperemia, lung edema were the common findings. Besides to these common findings, submucosal bleeding in gastric mucosa only in one case was detected. Toxicological analysis revealed the presence of cyanide in blood samples of 7 cases. Due to hospitalization in two cases, toxicological analysis could not be conducted. In these cases, analysis of the materials, hospital records, and the findings of crime scene investigation and autopsy were evaluated together to conclude the cause of death.

In clarifying these rarely encountered intoxication cases, the importance of co- evaluation of all findings obtained from death scene investigation, toxicological analysis and autopsy was stressed.

PP-461

Capillary high-performance liquid chromatography / fast atom bombardment-mass spectrometry of some phenothiazines and their metabolites in human sera

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Mass spectra of four representative phenothiazines and their metabolites in extracts of sera obtained from patients receiving the drugs have been presented by analyzing with our recently established system of capillary high-performance liquid chromatography (HPLC)/fast atom bombardment (FAB)-mass spectrometry (MS). Quasi-molecular peaks along with an adequate amount of fragment peaks were detected for all four compounds with the detection limit of less than 1 ng on column. Four parent phenothiazines and their monoxide metabolites could be also identified in extracts of sera taken from patients after oral administration of them with the capillary HPLC/FAM-MS. Thus, the present system seems sufficiently sensitive to detect all four phenothiazines under investigation. Although the capillary HPLC/FAB-MS is semi-quantitative, accurate quantitation can be made if a suitable isotopic internal standard is used. This system would seem to be useful for clinical and forensic toxicology.

PP-462

Capillary high-performance liquid chromatography/fast atom bombardment-mass spectrometry of nine aminoglycoside antibiotics

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Mass spectra of nine aminoglycoside (AG) antibiotics have been presented by analyzing with capillary reversed-phase ion-pair high-performance liquid chromatography (HPLC)/fast atom bombardment (FAB)-mass spectrometry (MS). Clean FAB mass spectra of all nine antibiotics could be obtained with the detection limits of 50–200 ng on column. Both quasi-molecular ions which are useful for estimation of the molecular weights of a compound, and fragment ions which are useful for identification of a compound appeared as intense peaks for all the drugs in a single mass spectrum. Intense peaks due to common moieties, m/z 161,162 and/or 163 occurred for eight compounds, and seem to be a good indication of the presence of AG antibiotics in forensic or clinical drug screening. An ion-pair solid phase extraction was devised using octadecyl reversed-phase

cartridge; the recovery rates of the nine AG antibiotics, which had been added to blank sera, were generally over 60 %. With the HPLC/MS system coupled with the simple extraction, we were able to identify ribostamycin, one of the representative AG antibiotics, in the serum obtained from a cadaver of a person who had died from shock after intramuscular administration of 1 g of the drug.

PP-463

Long-term Storage of Blood Samples as Freezing Hemolysates with Good's Buffer for Methemoglobin Determination

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Changes in methemoglobin (Met-Hb) concentration of hemolysates during storage in various buffers at −30°C were examined using human blood samples prepared in vitro and blood samples obtained from nitrite-administered rats. Marked autoxidation of hemoglobin (Hb) to Met-Hb was observed for hemolysates of both human and rat blood samples with sodium phosphate buffer 7 days after storage or later. Intermediate autoxidation and slight autoxidation were observed for both blood samples with sodium-potassium buffer and potassium phosphate buffer, respectively. Hemolysates mixed with Good's buffers, such as ACES and ADA, gave stable values of Met-Hb even 90 days after storage at −30°C for both blood, although a slight reduction of Met-Hb was observed for the blood from nitrite-administered rats with ACES. The present data show that ADA should be mixed with hemolysates especially before long-term storage of samples at −30°C for accurate determination of Met-Hb in blood.

PP-464

Determination of MDMA and MDA in Dried Blood Spot by Ultra Performance Liquid Chromotography with Fluorescence Detector

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Background: Dried blood spot(DBS) is advantageous alternative specimen to blood because of minimal invasive sampling, easy transportation and cheap storage.
Rapid, simple, sensitive and selective ultra performance liquid chromotography-fluorescence dedection(UPLC-FLD) method was developed for 3,4-methylenedioxymethamphetamine (MDMA) and its major metabolite methylenedioxyamphetamine(MDA) in DBS. 100 µl of known concentration whole blood was spotted on filter paper and dried at room temperature for 2 hours and stored at ambient temperature.
Methods: Sample preparation procodure is very simple liquid-liquid extraction with only methanol. Methylenedioxyethylamphetamine (MDEA) was used as internal standart. Analysis were perform with Acquity UPLC BEH C18 column with isocratic conditions. Mobile phase was a mixture of water(0.1 % formic acid) and acetonitrile(87:13). Excitation and emission wavelenghts were respectively set to 290 and 319 nm.
Results: Retention times of MDA, MDMA and MDEA were respectively 3.1, 3.5 and 4.6 min. Limits of quantitation were 11 ng/ml for MDMA and MDA and standart deviations of method were less than 5 %.
Conclusion: This method demonstrates detection of MDMA and MDA in DBS is enable with also UPLC/FLD for forensic toxicology.

PP-465

Comparison of the effects of two legal blood alcohol limits: Presence of alcohol in traffic accidents according to type of drivers

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Aim: According to Turkish laws, there are two blood alcohol limits in traffic: zero blood alcohol concentration (BAC) and<= 50 mg/dl BAC. Zero BAC limit applies to drivers of public vehicles (such as bus or taxi drivers), commercial and official vehicles. BAC limit<= 50 mg/dl applies to drivers of special motor vehicles. The aim of this study is to evaluate the level of alcohol consumption in traffic accidents according to driver types for comparison of the effects of two legal BAC limits.
Material-method: We conducted a retrospective study at Izmir Branch of the Council of Forensic Medicine. The 284 blood samples were obtained from drivers involved in non-fatal traffic accident cases between July 2010 and June 2011. Alcohol analysis was performed in whole blood samples of drivers from non-fatal traffic accidents by using Head Space-GC.
Result: It is well known that alcohol use is significantly attributed to traffic accidents. In the present study, alcohol was detected in blood samples of 23.6 % persons involved in traffic accidents. 31.1 % of the special car drivers were alcohol positive. 27.7 % of the special car drivers are found to have been intoxicated according to the BAC law. Only, 3 % of the public, commercial and official motor vehicle drivers were alcohol positive. In this study, the value of ORs suggests that motor vehicle drivers who must obey<= 50 mg/dl BAC limit were more frequently alcohol positive in traffic accidents than special car drivers who must obey zero BAC limit (OR=14.41, 95 %C.I. = 1.92-107.98) (Fisher exact test, P<0.001).The mean blood alcohol level of drivers who must obey<= 50 mg/dl BAC limit in non-fatal traffic accidents (52.60 mg/dl±94.84) was higher than the drivers who must obey zero BAC limit (10.76 mg/dl±61.80) (t=2.44, p<0.001).
Conclusion: It is concluded from the current study that decreasing the legal BAC limits of drivers has proved to be effective in reducing drunk driving in Turkey. This is also expected to reduce alcohol related traffic accidents.

PP-466

Histopathological changes in rat brain and spinal cord in long term Tramadol administration

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Background: Tramadol is one of a typical centrally acting opioids.It is indicated for management of moderate to sever pain. Now it is considered to be the most widely sold analgesic in the world, it is registered and marketed in more than 100 countries.
Objectives: A study was conducted to investigate the histopathological changes in rat brain and spinal cord with particular reference to formation of red neurons in response to long term administration of Tramadol in progressively increased doses.
Material & methods: Sixty adult male albino rats (160–180 g) were divided into three groups. Control group: given 1 ml normal saline 0.9 % (a) for three months (n=10) (b) for one month (n=10) orally. Group I (n=20) received Tramadol orally at doses 1/10 LD50 (30 mg/kg/day), 1/5 LD50 (60 mg/kg/day) and lastly four

times the initial dose for the first second and third months respectively. Group II received 1/10 LD50 for one month. All rats were scarified after 24 hours of the last dose at the end of each experimental period under ether anesthesia. Craniotomy and laminectomy was performed and intact brains and spinal cords were dissected and removed for histopathological studies. The presences of number of red neurons which are histological marker of apoptosis were investigated in frontal, parietal, temporal, Entorhial, pyriform occipital, hippocampal and spinal cord tissues.

Results: There was significant decrease in weight of experimental animals in both groups in comparison to the control one. The number of small sized neurons was greater in group II than in group I. There was statistical difference regarding neuopil density and color staining among three groups. Neuopil was lighter in staining and less dense in groups I and II comparing to control ($p<=0.002$ and $p<=0.001$) using ANOVA test. Red neurons were found in group I and II higher than control. There were statistical difference between density of red neurons in group I and II and control ($p<0.001$). The highest number of red neurons was found in hippocampal region followed by occipital and frontal. The abnormalities occurred in the spinal cord tissue is less than those in the brain tissue. The only changes were found in the neuropil (fainter and less dense in group Iand II compared with control.

Conclusions: chronic use of Tramadol is an important factor responsible for histopathological changes in neurons, which may be the cause of cerebral dysfunction after prolonged use.

PP-467

Is There Apple Cider or Malpractice ? (A Case Report)

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Introduction: It is important determination of blood alcohol for a patient especially during traffic accidents. If he or she does a traffic accident during alcohol effect, insurance agent will not pay any money or automobile because of mixed traffic insurance policy of motor vehicles. In this case we determine, investigate and discuss about these reports.

Case: Mr D was injured with traffic accidents. In hospital, Mr. D blood alcohol concentration was measured 0.79 promile. He declared to drink apple cider without drinking alcohol during 24 hours because of conventional ceremony day. He complained fault due to send laboratory mixing blood or wrong way, cutaneous contamination with desenfectation agents.

Discussion: Pathologic alcohol status is seen cirrhotic process or alcohol sensitivity because of genetic status during minor alcohol intaking. It ıs rarely seen and don't make an mistake for alcohol intoxication. The patient know his status and declared. If he takes lower than 0.50 promile, he don't take any punishment except pathologic alcohol intoxication. A patient have more than 1.00 promile blood alcohol concentration, he make traffic accidents during alcohol effect. This is not generally problem in forensic cases. Although it is generally observe 0.50-1.00 promile alcohol concentration, we need to search neuropathologic status. In our case, ıt was measured 0.79 promile blood alcohol concentration so we look at patient examination document. We don't understand intoxicated patient with alcohol.

Conclusion: We reported that a patient has 0.50-1.00 promile blood alcohol concentration, physcian must report neuropsychologic status except pathologic alcohol disease. If patient have alcohol effect on traffic accidents, he punished with this situation and didn't take any insurance garanties status. It must be reported to patient document about neuropsychologic status after traffic accidents during 24 hours.

PP-468

Intoxication Caused Death by a Kind of Plant Species (Clematis) of Ranunculaceae Family: A Case Report

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Ranunculaceae plant family consists of 1700 plant species. Most plant species in this family are ranunculus (600), delphinium(365), thalietrum, clematis, aconitum and actea. All species of this family comprise protoanemonin and its toxic metabolite ranunculin in their leaves, stems and flowers, besides some species comprise alkoloid and glycosides. Clematis and actea species comprise alkoloid and they are used as 'herbal medicines' because of their fungicidial, antimicrobial and antimutagenic nature. Clematis species can be encountered nearly all over the world flora, however, actea is known as South America origined.

When a plant species of the Ranunculaceae family applied externally; local irritation and related contact dermatitides on skin and bullae occurs, when taken from the mouth, irritation caused lesions in mouth and stomach,ventricular arythmia, respiratory insufficiency and rarely convulsions occur.

Death case casued by intoxication by Ranunculin is submitted in order to underline the importance of this plant which is frequently seen in world flora, easily supplied but not held any place in toxicological analysis.

Our case is 26 years old male who dead in suspiciously. Not a specific feature detected in external examination, in internal examination; it was seen the brain was like oedematous, except increase of consistency in both lungs, not any pathologic symptoms observed macroscobically. Partially fragmented leaves and leaf stems found in the 500 cc liquid in stomach. Leaf and leaf stems were sent to be analysed to University of Istanbul Faculty of Pharmacy Pharmaceutics Botanical Head Department. After the anatomical analysis of leaf and leaf stems, it was reported that the material might belong to Ranunculaceae family,Clematis or Actea species; chemical analysis detected alkoloid and it verifies the material is Clematis. Histopathologic analysis revealed brain, myocard, liver and kidney;hyperemia, lungs;lobar pneumonia, bronchitis. In toxicological analysis; carbamazephin and chlorpromazin detected in cure dose. It was mutually agreed that the cause of death is intoxication of ranunculaceae protoanemonin by taking it from the mouth.

Consequently, the toxicity of this type of plants is highly dangerous when used unconsciously that can be encountered in World and Turkey flora nearly everywhere, people should be informed sufficiently about this subject, the plants should be used under the control of experts within the frame of alternative medicine. Moreover, it is well known that in routine toxicologic analysis this kind of material may not be detected and therefore crime scene and autopsy symptoms are also important to guide the analysis process.

PP-469

Acute quetiapine overdose: a case report

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Background: Quetiapine fumarate is a new atypical antipsycotic drug of the dibenzothiazepine class of antypsycotics approved for treatment of schizophrenia and related disorders by the US FDA. Quetiapine exhibited high affinity for serotonergic 5-HT2A-receptors, and moderate affinity for dopamine D2-receptor; whereas antagonism of D1 and 5-HT1A-receptors is relatively weak. Remarkable side effects, reported in many studies, were tachycardia, somnolence, hyperglicemia, transient hypothyroidism, moderately prolonged QTc-interval and central nervous system depression. These effects can be explained by blockage of the α-adrenergic, muscarinic and histamine receptors.

In the letterature, several case reports about intoxication with quetiapine are reported, but few patients had a fatal outcome. Nonetheless, in rare cases, people have died as a result of taking atypical antipsychotic drugs at therapeutic and supratherapeutic doses. Toxic doses of atypical antipsychotics are highly variable: some patients have died while taking therapeutic doses and others have survived massive overdoses. Toxicity may be increased by coingestion of other agents, particularly drugs with similar metabolic pathways.

We report a case of 21-year-old male with a history of depression and other psychotic disorders who died after a presuntive oral-overdose of antipsychotic drugs. He was found unconscius and hypothermic lying in his bed. Many empty bottle of quetiapine (Seroquel) and benzodiazepine was found next to the patient. Alcohol and illicit drugs use was denied by his family members, and no other bottles were found.

Method: Autopsy, toxicological analysis and histological examination were performed.

Results: The autopsy revealed pulmunary congestion and oedema, diffused miocardial petechial haemorrhages and multi-organ congestion. Histologic examination showed the absence of any other pathological finding. Toxicological analyses on blood performed using a gas chromatography–mass spectrometry (GC/MS) technique revealed the presence of quetiapine (blood sample 8 mg/ml; gastric content 20 mg/ml) and flurazepam (blood sample 0.8 mg/ml; gastric content 20 mg/ml). The blood postmortem concentration of flurazepam and quetiapine are included in the lethal concentrations reported in the scientific literature for related deaths to overdose.

Conclusions: Quetiapine is marketed as a safe antipsycotic mediation with a low risk of extrapyramidal reactions and other side effects, rather that other atypical antipsychotic drugs such as clozapine and olanzapine. Actually, the indications for quetiapine use, include also anxiety and personality disorders.

This case suggests that, although the incidence of major complications or death related to quetiapine is low, caution needs to be exercised on administration of this medication in association with other antipsycotic drugs extensively used in clinical practice.

PP-470

Current Trends in Drug Abuse Associated Fatalities in Cukurova, Turkey

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Background: Drug abuse has been increasingly involved in violence and the number of deaths around the world and in Turkey.

Although this abuse is not always the cause of death, it can influence the final outcome of a violent event. The aim of this study was to present the recent trends in drug abuse associated with fatalities during a period between October 2006 and August 2011 based on the data collected from the results of toxicological analysis in the laboratory of toxicology in The Turkish Forensic Medicine Council Adana Group Administration.

Materials-methods: This study was based on the autopsy records of Morgue Department of The Turkish Forensic Medicine Council Adana Group Administration which were evaluated retrospectively for all drug abuse associated with deaths recorded between October 2006 and August 2011. Cases were analyzed according to the following criteria: origin, age, gender, month, year, presence or not of autopsy report and post mortem drug determination.

Results: Based on the scene investigation, autopsy examination, and toxicology study, it was found that 360 cases (5.04 %) out of the 7141 total autopsies were attributed to drug abuse associated with deaths between October 2006 and August 2011. The age range was from 1 to 81 years (mean+/−S.D.=28.39±15.77). The reported abuse substances were, cannabis (THC) 31.39 %, opiate 30.27 %, barbiturate 18.05 %, benzodiazepine 14.72 %, amphetamine 3.89 %, ketamine 1.12 %, cocaine 0.56 %. Males predominated in drug abuse associated fatalities with 307 cases (85.28 %) while females represented 53 cases (14.72 %).

Conclusion: Identification of substances detected in drug related deaths are important in order to observe new trends in drug usage. Based on our retrospective evaluation and analytical screenings of drug related deaths in Cukurova Region reveal that frequently seen substances are tetrahydrocannabinol (THC) and opiate. This study confirmed the variation in the incidence and type of abused substances in Cukurova Region.

PP-471

Analysis of amphetamine-type stimulants in biological matrices

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Background: New synthetic drugs of abuse have recently appeared in the illicit market, particularly the so-called amphetamine-type stimulants (ATS), such as 2 C-T-2, 2 C-T-7, PMA, PMMA, ephedrine, norephedrine and methcathinone, which have been associated to deaths in Europe. In this sense, it's justified the need of development of an analytical methodology for the identification and quantification of these drugs in biological fluids.

Methods: A simple and fully validated procedure is described for the qualitative and quantitative analysis of ATS in whole blood samples, using mixed-mode solid-phase extraction and GC-MS. Additionally, an innovator procedure was also tested for the first time in this compounds, the bar adsorptive micro-extraction (BAμE). The target analytes were extracted from urine samples by BAμE and analyzed by LC-MS/MS.

Results: The SPE-GC-MS method was linear from 5 (limit of quantification) to 500 ng/mL, with determination coefficients (R2) higher than 0.99 for all analytes, except for methcathinone (0.96). The limits of detection (LOD) were 1 ng/mL for all analytes and the method was considered selective and robust, presenting adequate precision and accuracy for all analytes, except methcathinone, fulfilling the criteria usually accepted for bioanalytical method validation. Extraction efficiency was higher than 80 % for all analytes. Furthermore, the procedure showed to be sensitive and with appropriate selectivity to detect small amounts of the compounds and quantification of 2 C-T-2, 2 C-T-7, PMA, PMMA, ephedrine and norephedrine in blood samples.

Considering that the BAμE-LC-MS/MS methodology was applied in standard conditions the preliminary results were satisfactory, presenting extraction efficiencies between 19 % and 48 % and LOD of 2 ng/mL.

Conclusions: A simple and fully validated procedure is described for the qualitative and quantitative determination of amphetamine-type stimulants in human whole blood samples, using SPE-GC/MS. A new approach is successfully applied and represents viable alternative to traditional sample preparation techniques.

PP-472

Example of multidisciplinary Mediterranean collaboration for forensic toxicological investigations: a case of fatale poisoning by vanadium

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The increasing level of Mediterranean collaboration in forensic research is increasingly dependent on interorganisational collaboration and some governmental scientific policy initiatives. The recent improvements in transportation and communication technologies have made it easy the process of long-distance collaboration research activities. However the bridging of physical distance between collaborating researchers requires good coordination and the presence of efficient interface. Thanks to AFPreMed as interface, French (IRCGN, Claude Bernard Laboratory) and Algerian researcher teams (CHU of TIZI-OUZOU) have recently initiated a forensic toxicological collaboration. In this abstract we report an example of Mediterranean collaborative investigations concerning the first case of fatal human poisoning by vanadium.

Case: At 10 h30 p.m., a 24-year-old woman was admitted to the emergency department of hospital University of Tizi-Ouzou (Algeria), for diffuse abdominal pain, nausea, vomiting, multiple daily diarrhoeas. Initial chemistry tests were normal except for glucose 0.2 g/L (1.1 mmol/L), creatinine 265 μmol.L-1 (normal 49-90 μmol.L-1), alanine amino transferase: 114 IU/L (normal 10–45 IU/L). The glomerular filtration rate were estimated at 21 ml/mn-1. A rapid urine drug of abuse panel was negative. This patient had taken an undetermined amount of ammonium vanadate at about 10 a.m. the same morning. She died next morning in the context of respiratory distress, despite intensive care and oxygen therapy. The sample collected in vacuum tube with K3EDTA, was stored at −18°C and transferred to IRCGN (France) for analysis. Determination of vanadium concentration in blood was carried out by means of mass spectrometer (ICP-MS) using the Rhodium (103Rh) as internal standard.

Results and discussion: The autopsy revealed widespread asphyxia syndrome, labial mucosa with a greenish color and erosive gastritis.The Vanadium concentration was 6.22 mg/L corresponding to 6000 times higher than normal concentration in the non-exposed population. In our case, the low glomerular filtration rate 21 ml.mn-1 indicates the severe acute renal failure. In addition, the elevation of blood alanine amino transferase level (2.5 times normal value) suggests a mild hepatic cytolysis. Otherwise, In vivo Vanadium is concentrated in some subcellular structures, particularly in mitochondria. Therefore, the oxidant vanadyl and vanadate ions interact (E° Vanadyl/Vanadate: 1.0 V) on the respiratory chain and enzymes namely sulfhydryl-dependant succinic dehydrogenase implied in citric acid cycle leading to oxidative stress. The latency and the brutality of clinical picture degradation seem to be in consideration of systemic poisoning by vanadium leading to inhibition of the cellular respiratory process.

Conclusion: This documented case is of great importance for understanding the mechanisms of vanadium toxicology. This interesting result argues that multidisciplinary collaboration between many mediterranen contries may enhance the forensic research and requires a good coordination.

PP-473

Comparative Analysis Of Mixed Internal Organ Samples And Isolated Internal Organ Samples

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Whether the origin is accident, suicide or homicide, any intoxication resulting in death is a forensic case and requires an autopsy. Cause of death can be determined by close cooperation of a forensic medicine specialist and a forensic toxicologist. Intoxication cannot be diagnosed as a cause of death without proving the presence of a toxicological substance in samples taken from the body.

In forensic toxicology; systematic toxicological analysis (STA) defines a general toxicological approach involving drugs and substances which may cause intoxication. Appropriate sampling for toxicological investigation is one of the most critical factors of a forensic autopsy. Incorrect sampling may not only hinder yielding accurate results in toxicological investigations, but under certain conditions it may also cause legal problems.

Samples for a routine STA should be economic and practical.

In this study, internal organ samples for STA were taken and sent to toxicological analysis in same container, and kidney, brain, lung, heart and liver tissues were taken and sent isolated in individual containers, aiming to compare data obtained from toxicological analysis and to evaluate any superiority of toxicological analysis of isolated liver samples to mixed internal organ sampling and other isolated organ samples.

57 autopsy cases sent to the Council of Forensic Medicine with either a suspicion of intoxication or who died in a health institution during medical treatment were included to the study. Besides blood and urine, isolated liver right lobe, isolated liver left lobe, isolated kidney, isolated lung, isolated heart, mixed internal organs, and stomach content samples were taken from each case. TLC and GC-MS analyses were applied respectively to acid ether and alkaline chloroform residues obtained from internal organs.

Data obtained from our study, interpreted together with literature data, indicated that besides blood, urine, and stomach content, liver and kidney samples in individual containers are adequate for routine STA. TLC screening of internal organs were shown to be leading to serious failures; thus excluding them from routine application will achieve a significant decrease in unnecessary workload, and more importantly prevent false negative results.

PP-474

acute intoxication in a 25-year-old male acute exposed to mix type illicit drugs: a case report

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Some of patients admitted to emergency service are also a case of forensic medicine. Health care workers are liabil to inform those cases to judicial authorities. In cases with unconciousness since the anamnesis is not clear,

a state of intoxication should not be ignored. In our case a 25–year-old male was admitted to our emergency service, with loss of consciousness. In his physical examination, failure of respiration, bilateral pupil dilation unreactive to light, Glasgow Coma Scale (GCS) scores was 3. Prior to naloxan administration, endotracheal intubation was performed, and patient was able to give information about his situation. According to his statement was poisoned by some unknown people with heroin. A little package was also found on him. For a suspicion of intoxication, his blood urine samples and the suspicion package were send to toxicology laboratuary. Toxicological analysis by liquid-liquid extraction (LLE) both acidic and basic forms (Toxitube, Varian Inc) and gas chromatography–mass spectrometry (GC-MS) analysis was therefore carried out to identify the individual substances present in the biological fluids and the package. GCMS of the urine and blood this time confirmed the presence of heroin metabolite, and mix type illicit drugs (6-acetylcodeine, 6-acetylmorphine, papaverine, noscapine) in the suspicious package. This case highlights the potential of toxicological screening that is very important in unconcious and cases with/or with out having any traumatic lesion.

PP-475

Clavicle Bone as an Alternative Matrix in Forensic Toxicological Analysis

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Background: Although human blood is the reference medium in the field of forensic toxicology, alternative matrices may be required when traditional specimens are unavailable, especially in the investigation of cases involving decomposing remains. According to the literature different human bone specimens have already been tested for the detection of drugs, such as vertebrae, iliac, and femoral segments. Clavicle bone may provide an appropriate sample of choice since can easily be obtained at autopsy after the removal of the breastplate for the inspection of the thoracic viscera. To the author's knowledge, this is the first time that clavicle bone is used as an alternative matrix for the detection of drugs.
Method: The present study aimed to investigate the suitability of clavicle bone as an alternative matrix for the detection of opiates and particular specificities of this matrix is discussed. Midshaft clavicle samples were extracted from autopsied cases referred to us from the Public Prosecutor's Office of District Court. Adhering soft tissues were removed and each specimen was sectioned into 2 mm pieces by means of a band saw. The samples were subsequently rinsed with deionised water and air-dried. Each sample underwent methanolic extraction (12 h, 25°C), reconstitution, solid-phase extraction, using a Bond-Elut Certify cartridge, and further derivatization with PFPA. Opiates were assayed using a gas chromatography–mass spectrometry in the selected ion monitoring mode. Morphine-d6, codeine-d6 and 6-MAM-d3 were used as internal standards for the determination of morphine, codeine and 6-MAM, respectively.
Results: A GC/MS method was developed and validated for the determination of opiates in clavicle samples. Morphine, codeine and 6-MAM were successfully separated in spiked samples allowing for their detection at low levels without interferences from the matrix. Chromatographic run time was less than 15 min and the tested linearity ranged from 5–500 ng/g ($r2>0.99$) for all analytes. The method was further applied in clavicle samples and analytes' concentrations were compared with the respective values in blood samples.
Conclusion: The main advantage of the proposed methodology is the potential use of clavicle as an alternative matrix in forensic toxicology. Its validation parameters and the application of the developed method in clavicle samples from drug addicts, prove its suitability for the detection of opiates and potentially other drugs. Our method could be used for answering specific questions that arise during the investigation of drug-related cases. However, further analytical data are required to confirm its relevance in forensic toxicology.

PP-476

Detection of Cannabinoids, Opiates and Metabolites in Human Hair Samples by Gas Chromatography/Mass Spectrometry

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A gas chromatography/mass spectrometry (GC/MS) method was developed and validated for the determination of common drugs of abuse in Cukurova region. The method was able to simultaneously quantify opiates (morphine, codeine, 6-acetylmorphine) and Δ9 tetrahydrocannabinol (cannabinol, cannabidiol) in human hair. 20 mg hair samples were washed, cut and incubated overnight at 56 0 C in methanol for opiate analysis. For the analysis of THC, 50 mg hair samples were washed, cut and the samples were dissolved in 1 ml 1 M sodium hydroxide (10 min at 95 0 C). The samples were extracted by solid-phase extraction and liquid-liquid extraction, derivatized using BSTFA (N,O-bis (trimethylsilyl)trifluoraacetamide and TMCS (trimethylchlorosilane) the derivates were analyzed by electron ionization (EI) GC/MS in selected ion monitoring mode. Calibration curves for six analytes were established in the concentration range 0.05-10 ng/mg with high correlation coefficients ($r2>0.999$). The limit of detection (LOD) and limit of detection (LOQ) obtained were 0.03 ng/mg and 0.1 ng/mg for opiates and metabolites; and 0.007 ng/mg and 0.05 ng/mg for tetrahydrocannabinol and metabolites.

The developed method was used to analyze ten hair samples from known polydrug abusers.

PP-477

Comparison Of Toxicological Screening Test Results And Verbal Reports On Marijuana Use For Probationers

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Background: Illicit drug use in Turkey is on the rise and number of people fall foul of the law is increasing progressively. Probation is a compliance monitoring programme for illicit drug users and was put in to practice in last decade in Turkey. Marijuana is the most commonly used illicit drug in Turkey and probationers are mainly monitored for this substance. Both legislative and medical awareness for this population should be improved in order to understand the growing problem better and to develop more effective therapeutic approaches.
Methods: Probationers (n=302) included in this study were court-ordered to Ege University BATI Institute. The subjects were asked for a possible marijuana use in last 72 hours during the personal interview and given a signed consent form, for the documentation of this report. The urine specimens were taken from the probationers according to the probation procedure. Toxicological analysis for cannabinoids were made by Immunoassay (CEDIA-Cloned Enzyme Donor Immunoassay) and GC/MS (Gas Chromatography Mass Spectrometry).
Results: The results of this study have indicated that verbal reports of probationers significantly differ from the toxicological screening test results (χ^2, $p=0.001$). Additionally, it was found that 22.2 % of

subjects are using other drugs simultaneously for the therapeutic reasons which are considered as a possible cause for false positive results. These drugs include antiulcer agents, antidepressants, antipsychotics and nonsteroidal anti-inflammatory analgesics.

Conclusion: Probation was put into practice in 2006 in Turkey and new arrangements should be carried to develop the programme. During this development stage, our data might show the importance of toxicological screening test results in terms of self-report of the probationers during personal interview. Number of simultaneous drug use for therapeutic reasons show the importance of confirmation methods in order to prevent false positive test results.

PP-478

The Prevalence Of Ethyl Alcohol Intoxication In Medicolegal Cases During One Year Period

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Background: Alcohol is the most commonly encountered toxic substance in forensic toxicology. Alcohol intoxication (AI) is a clinically harmful condition that usually follows the ingestion of a large amount of alcohol. During last years, as the proportion of alcohol consumption has increased, medical problems caused by AI have become more severe. The aim of the present study is to evaluate the prevalence of AI in the BATI Institute for a one year period.

Method: The data was obtained for 2734 patients for a one year period from the records kept in the toxicology laboratory of BATI Institute. The patients profile were; traffic accident, trauma, drug intoxication, stab wound, firearm wounds, falling and other forensic cases (suicide etc.). Blood samples (with EDTA) have been forwarded to the Toxicology Laboratory of BATI Institute for the analysis under the chain of custody. All analyses were performed by Cloned Enzyme Donor Immunoassay Technique (CEDIA) in plasma. The cut-off concentration was 10 mg/dL.The subjects were categorized based on their BAC. The classification is done in terms of both legislative and clinical/behavioral aspect. Group A: 10–49 mg/dL; Group B: 50–99 mg/dL; Group C: 100–199 mg/dL, Group D: 200-299 mg/dL; Group E: 300–399 mg/dL; Group F: 400–499 mg/dL, Group G: > 500 mg/dL.

Results: The alcohol prevalance was 80.9 % and 19.1 %, in male and female subjects, respectively. Among the subjects, 16.1 % of the cases were found to be alcohol positive. In alcohol positive cases (APCs), 17.1 % were in Group A, 16.2 % in Group B, 39.4 % in Group C, 19.8 % in Group D, 5.0 % in Group E, 1.4 % in Group F and 1.1 % in Group G. Among the APCs, 82.9 % were above the legal limit for for driving under the influence of alcohol (50 mg/dL) according to Turkish regulations. 7.5 % of the APCs were found to be above 300 mg/dL which is the situation observed for stupor followed by coma in the preliminary analyses involved.

Conclusion: Chronic or acute alcohol intoxication is connected with many serious pathologies and legal cases. Simultaneous determination of volatile compounds in blood is very important in medicolegal cases.

PP-479

An Investigation On Substance-Crime Relationship For Probationers In İzmir

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Background: Probation is a compliance monitoring which is conducted with individuals under criminal justice supervision who are required to abstain from illicit drug use. According to Turkish Penal Code, any person who purchases, accepts, or carries addictive or relieving/exciting drugs for use can be punished with imprisonment from one to two years. Since 2006, probation has been an accepted alternative to institutional confinement in Turkey. The aim of the study is to investigate substance-crime relationship for the probationers with drug abuse.

Methods: This is a descriptive, cross-sectional study that evaluates substance-crime relationship for the subjects that are sentenced to probation with drug abuse. All subjects were court-ordered to BATI Institute for a 12-month period. during 2011 (n=294). Toxicological analysis made by Immunoassay and Gas Chromatography for substance in the urine. All data were analyzed with SPSSv18.0.

Results: All subjects were male and aged between 18 and 67. The subjects are investigated under two different groups; Group 1: Probationers (41 %) that additionally have other certain kinds of offences apart from drug use (violence, crimes for profit, robbery, weapon-related crimes), Group 2: Probationers (59 %) that are sentenced only for drug abuse. The mean age of Group 1 and 2 are 31.3±9.9 and 29.1±7.9, respectively. When the sociodemographic characteristics (marrital status, education, income, profession, age) are investigated for Group 1 and 2, the significant difference was determined only for age ($p=0.048$). Both groups had comparably high lifetime rates of multiple substance use (marijuana, heroin, ecstasy, benzodiazepines, etc) where significant differences ($p=0.001$) were observed. This finding indicate a relationship between tendency to commit crime and drug abuse. When the groups are compared in terms of lifetime drug abuse, again a significant difference is observed (χ^2, $p=0.001$).

Alcohol and tobacco use is also very common in both of the groups. In addition, when the groups are compared in terms of employment, family relationships and financial problems, a significant difference is observed only for the occupational status (χ^2, $p=0.009$).

Conclusions: The strong correlation between crime and drug abuse is inevitable. Therefore it is very important to confine the subjects to the probation system at earlier periods to lower the rates of global crime.

PP-480

Evaluation of Cup Screening Test Results For Cannabinoids

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Background: Marijuana use draws an attention from the public and represents a worldwide problem. The most psychologically active component of marijuana is THC (delta-9-tetrahydrocannabinol). The determination of urinary cannbinoid excretion is very important especially in medicolegal cases. Analytical methods for detecting cannabinoids fall into two categories: screening methods and confirmatory methods. Screening tests are easy and fast but their specificity and sensitivity are not high.The positive results must be confirmed by an alternate analytical method (generally GC/MS). Cup tests are frequently used for screening urinary cannbinoids in clinical laboratories, but the visual determination of these tests sometimes becomes challenging, especially when the specimen cannbinoid concentrations are near the cutoff values. The aim of this study is to evaluate borderline results of cup tests in conjunction with GC/MS.

Methods: The urine specimens were taken from the probationers who were court-ordered to BATI. The urinanalyses of the subjects

were first performed by Screen Dipcards according to the manufacturer's instructions. The urine samples (n =36) giving a borderline result (which are normally accepted as negative) were included in this study. All urine samples were tested for urine adulteration/dilution. Liquid-liquid extraction were used to prepare the samples prior to GC/MS analysis. Derivitization made by N,O bis(trimethylsilyl) trifluoroacetamide (BSTFA) in %1 trimetilklorosilam (TMCS).

Results: Urine samples (n=36) which are decided for being "negative" were analysed using GC/MS. In 9 of the urine samples cannabinoids were detected, ranged between 30–97 ng mL-1 (mean 62.2 ng mL-1). The cannabinoid drug screen device used in the study has a cut-off level of 50 ng mL-1, therefore GC/MS results were classified according to this cut-off value. Four false negative results were obtained in the thirty of the cases where THC concentration is<50 ng mL-1 whereas five false negative results were detected for THC concentration is> 50 ng mL-1. It is clearly seen that false negative results is not rare in cup tests.

Conclusion: Qualitative and semiquantitative screening tests are commonly used for substance analysis. In order to reduce false negative results, sensitivity has to be taken into consideration. Scientific awareness of the toxicological methods should be standardized in Turkey for justness especially in medicolegal cases.

PP-481

Prevalence Of Professional Drivers Among Probationers For Marijuana Use In Izmir, Turkey

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Background: The use of illicit drugs, particularly marijuana, is on the rise and this increase also extends to drivers. The extent of driving under the influence of drugs is not considered sufficiently enough since law enforcement agencies do not routinely test impaired drivers for drugs. This study aims to evaluate the professional drivers (PD) among probationers (that are subjected due to marijuana use) in İzmir in terms of their substance abuse characteristics.

Method: The data was obtained for 624 probationers for a 9 month period from the records kept in the toxicology laboratory. Toxicological analysis made by Immunoassay and Gas Chromatography for cannabinoids in the urine. All data were analyzed with SPSSv18.0.

Results: Among 624 of the probationers, 31 of them were PD who are aged between 21 and 53.. 29.8 % of them have more than 3 probation files and 45.8 % of them have 2 probation files. Most of the probationers were found to have a habit of cigarette (61.9 %) and alcohol (65.5 %). The age of early onset of using cigarette, alcohol and marijuana were found to be 11, 14 and 12, respectively.

Despite being in a probation rehabilitation programme, 29 of the PD have self-reported their marijuana use. Among these, 58.3 % have declared that they have used marjuana in the last month, and 29.2 % in the last 6 months. The carboxy-THC concentrations ranged between 79–124 ng mL-1. According to the toxicological analysis, positive results were obtained for 38.7 % of PD and this incidence was higher (71.4 %) in the group which have self reported marijuana use in the last month.

Marijuana using frequency were; several times a day (27.6 %), once a day (13,8 %) and less than 3 times a week (27.6 %) for PD. There were significant differences (χ^2, p=0.032) between toxicological results and marijuana using frequency. Life time use of marijuana was 67.9 % for more than 5 years for PD and being sober for more than a year was 45.5 %. The PD that have self-reported experiencing other substances (ecstasy-MDMA, rohypnol, heroin) during the probation period was very rare (only 6 cases).

Conclusion: The increased availability of cannabis inevitably increase its prevalence among drivers, it is hoped that new arrangements will help to increase the awareness about drugged drivers.

PP-482

Cannabis Self Medication In Cancer: A Case Study On A Probationar

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Background: Cannabis sativa is one of the abused plants and may also be used for medical purposes. The medical indications of cannabis are sedative or hypnotic, analgesic, improving appétit, digestion and such situations like diarrhea, nause, vomitting, dysentery, cholera, diabetes mellitus, cardiac palpitation and vertigo. The plant, cannabis sativa, contains over 60 different cannabinoids. Although cannabis is one of the abused substance in our country, emerging evidence suggests that cannabinoids may have beneficial influence on intestinal inflammation and cancer.

Case: We report a 61- year old man applied for admission into probation programme. He was suffering from metastatic colon cancer. He was smoking cannabis to alleviate side effects of chemotherapy drugs. He was examined for eight times at scheduled visits and taken urine sample for three times to make toxicologic analysis. We observed that when the patient reduced the level of cannabis smoking or stopped using it, his adherence to medical treatment was getting worse because of serious side effects of chemotherapy drugs.

Conclusion: Three different associations with cannabinoids and cancer can be disscussed. First, it assesses evidence that smoking of cannabis preparations may cause cancers of the aerodigestive and respiratory system. Second, there is mixed evidence on the effects of THC (Δ9-tetrahydrocannabinol) and other cannabinoids on cancers: in some in vitro and in vivo studies. THC and some synthetic cannabinoids have antineoplastic effects,conversely in other studies THC seems to impair the immune response to cancer. Third, THC may treat the symptoms and side-effects of cancer, and there is evidence that cannabinoids may be useful in adjuvant treatments that improve appetite, reduce nausea and vomiting, and alleviate moderate neuropathic pain in patients with cancer. Although cannabinoids exhibit a broad variety of anticarcinogenic effects, their potential use in cancer therapy is limited by their psychoactive effects. In this case maintaining side effects of chemotherapy drugs were curious for keeping patient on medical treatment. And the only way of this was his self medication for some side effects like nausea, vomiting and anorexia. We concluded that using medical cannabis can be benefit in selected cases.

PP-483

Myocarditis: a rare cause of scorpion sting related death

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Background: Despite their scarcity (less than 1 % of clinical presentation of overall scorpion stings), severe forms of scorpion envenoming account for the reported mortality related to this dreaded accident.

Case: we report a case of à 24 years old women who rapidly dead after a scorpion sting. Forensic autopsy revealed an isolated acute and massif pulmonary edema. Histopathology exam confirmed the

pulmonary edema and found microspic myocite abnormalities evoked acute cadiomyopathy. Cause of death was deemed to be acute heart failure related to scorpion envenoming.
Conclusion: death in severe scorpion envenoming is related to acute heart failure following cardiogenic shock or pulmonary edema. The pathogenic and forensic particularities of this form are discussed.

PP-484

Sibutramine in Herbal Weight Loss Products

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Aim: Herbal weight loss products are widely used all over the World. Some of these products are marketed without a legal permission and sold through internet. Although it is claimed that they are herbal, some of them contain drugs such as sibutramine, synephrine, ephedrine, amphetamine, caffeine which are not mentioned on their brochure. Here, we report a herbal weight loss product containing unlabeled sibutramine used by a young men who was found death.
Materials and Methods: Capsules sent to the Council of Forensic Medicine Department of Chemistry were examined. Content of capsules were dissolved in methanol and analyzed with gas chromatography/mass spectrometry (GC/MS, Agilent 6890 GC/5973 inert MS).
Results: The ingredients of the product were mentioned in Turkish on the label. Label in Turkish displayed: "Mexican red pepper, ciprus, guarana fruit, gum tragacanth extract, starch. The directions to use for the pepper capsule: take 1 capsule with large amount of water after breakfast". There were also expressions in Chinese on the label. Another sentence was in English: "0,3 g pretty living beings science and technology limited companies of……". The analysis of the capsule with GC/MS in scan mode showed a peak at 11.6 min in the chromatogram which was identified as sibutramine according to the mass fragmentation.
Conclusion: The analysis of an herbal weight loss product found in the crime scene investigation of a death young man showed sibutramine which was not mentioned on its label. Sibutramine is banned due to the increased risk of cardiovascular events and death in many countries in the world as well as in Turkey. However, many products claiming that they are herbal contain unlabeled drugs and substances such as sibutramine. Therefore, they cause serious health problems, even deaths and they should be regulated and controlled strictly.

PP-485

Detrimental toxic effects of bango and hashish abuse on brain neurotransmitters such as (cholinesterase, gamma-amino–butyric acid gaba)

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Cannabis was considered one of the mildest, safest and most effective substances available for recreation, social relaxation and as an organic treatment of many medical conditions. Delta −9- Tetrahydrocannabinol is believed to be responsible for most of the characteristic psychoactive effects as euphoria. THC content usually varies between 1 & 15 percent in marijuana and between 3 & 6 percent in hashish. They contain a higher concentration of active ingredients (between 30 & 50 percent in their oil preparation). Cannabis is considered in the group of psychotropics known as hallucinogens To evaluate the toxic effect of THC extracted from bango and hashish on brain neurotransmitters of rats treated with cannabis after 12, 24 hour and 3 months of intraperitoneal injection (IP). Seventy two male albino rats, Rattus norvegicus were injected by bango and hashish extract solution for both acute and chronic toxicities. Thirty six rats for acute toxicity (injected IP) and the other thirty six rats for Chronic toxicity (injected IP); the rats were divided into six groups:- Control group: 16 Normal rats fed on the stock diet injected intraperitoneally by high dose of 0.9 % Na cl – Tween 80 solution (group I & II) 2- bango extract: 16 rats were injected intraperitoneally by high dose of bango Extract 1.3 mg/100gm b.w. for 12 hour (group III) & for 24 hour (group IV).3- hashish extract: 16 rats were injected intraperitoneally by high dose of hashish extract 2.0 mg/100gm b.w for 12 hour (group V) & for 24 hour (group VI) The other thirty six rats are divided into three groups:- 1- Control group: 8 Normal rats fed on the stock diet injected intraperitoneally by 0.9 % Na cl – Tween 80 solution for 3 months (group VII).2- Bango extract: 8 rats were daily intraperitoneally injecting 0.13 mg/100gm b.w. for 3 months.(group VIII). 3- Hashish extract: 8 rats were daily intraperitoneally injecting 0.2 mg/100gm b.w. for 3 months (group IX).
Results: Cholinesterase, Gamma-amino–butyric acid (GABA) exhibited highly significant decreas $P<0.005$ when compared with those of the control group in both bango and hashish after 12 hour, 24 hour and 3 months.
Conclusion: The study showed the serious and the severe detrimental toxic effects of bango and hashish abuse on neurotransmitters such as Cholinesterase and GABA.
Key words: Cannabis - Cholinesterase, Gamma-amino–butyric acid (GABA).

PP-486

Diagnosis value of a decrease of the choline esterase level in the putrfied corpses

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Pesticide ingestion is a frequent mean of suicide in Tunisia, due to their availability and their low price. The diagnosis is suspected on pre-mortem clinical symptoms and in case we notice suspecteous liquid in the gastric content. The decrease of the level of plasmatic and globular acetylcholinesterase (AchE) is very informative. The diagnosis is confirmed by the identification of the pesticide or its metabolite especially in urine or gastric content.

Our work aims to study the contribution of the AchE in the cases of putrefied corpses to establish the cause of death.

Our study concerned 44 cases of advanced putrefied corpses autopsied during a period of four years (2005 – 2008) in the Department of Forensic Medicine of Tunis among 6120 autopsies. We have excluded the cases where blood collection was impossible. The AchE levels were measured following the Ellmann and the kinetic enzymatic method. The biological matrices were cardiac blood in all the cases. The research of the pesticide and their metabolites was performed using thin chromatography and confirmation with GC/MS. The samples were gastric liquid and urine.

There was an orientation signs of pesticide ingestion in only one case. The sex ratio (M/F) was 3/1. Mean age was about 30 year-old. Most of the cases were in the age range 19–39 (32 %). Only 3 cases had a known illness (Diabetes). 6 cases were known having psychiatric disorders.

The corpses were found after a mean delay of 4,7 days (3 to 10 days). 73 % were found in the person's domicile, 18 % in an aquatic place and 9 % in a hidden place. We found a decrease of the level of AchE and BchE in 13 %, a normal level in 77 % and the measure was not possible of the sample in 9 %. We found the presence of organophosphorus with GC/MS in only one case.

As several studies showed, the confirmation of pesticide ingestion is possible only with the identification of the pesticide in a biological matrices or viscera. The AchE level alone is insufficient to confirm the diagnosis of pesticide intoxication.

PP-487

Antidotes To Celphos In The Welfare Of Mankind

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Aluminum Phosphide (Celphos tablets and in powdery form) have played a havoc with the suffering human folk. There is a dispute or ruckus in every family and no one is satisfied with their meager resources. Merely due to avariciousness, quarrels have crapped up a row just to leave another person in depression. Failures are the other subsequent factors which have marred the society and made all the people trouble- ridden. Failure in the examination, unsuccessful in achieving a lucrative job or to be failure in maintenance of social hierarchy can lead to oppression and depression. Moreover, failure in love or to achieve some important suitable and particular target can also lead to self inculcated depression.Due to harmony and synchrony of all these important factors, a psyche person; male or female may try to commit suicide. But no one can engulf this poison of his own accord due to its peculiar smell. Only a master mind accused can induce this poison or can give it in a disguise along with liquor or beverages etc. On reaching the stomach, there is heavy propulsion of gases which lead to shattering of vital organs into pieces along with heavy profusion of blood inside, impairment of nervous system and can make an individual even blind. Therefore, to meet the essential requirement of mankind, there is an imperative need to explore the antidotes which may act as subtle factors to form an emulsion layer by counteracting dissolution of celphos tablet or powder and to tide over this unfavorable period towards which emergent care, fast hospital management may be given to the victims. If possible, to strike off the dissolution mechanism altogether so that no further loss of life may ensue. Keeping this emergent need in mind, inventions in the form of experimentation with different liquids has been made to sort out the riddle and to save the human kind from tyranny of this harmful chemical meant to destroy insects of grains and other rodent pests.

PP-488

Death due to methane gas: two cases of uncommon manner of death

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Asphyxia refers to the inability to receive or use oxygen at cellular level. Substances such methane gas physically displace oxygen in inspired air, preventing the cells from receiving oxygen. Thus, methane is classified as a suffocating gas on the basis of its mechanism of action.

A 35-year-old single male was found dead at home. He was lying on the sofa next to the kitchen, with no external signs of trauma. In his mouth, sealed with packing tape, there was a hose connected to the gas wall outlet. Written suicide notes were found on a table. A forensic autopsy revealed no trauma or signs of violence. Toxicological analysis of blood showed the presence of methane at the concentration of 0.016 mg/ml. The cause of death was ascribed to asphyxia resulting from oxygen displacement.

A 53-year-old woman was found dead in her bed at home with her husband lying near her. The distinctive smell of domestic gas was detected in the apartment. Within the bedroom, the man was lying on the floor behind the door, and the woman's body was supine on the bed under a duvet. The man was still alive and was transferred to the nearest hospital. The police knew that the victim was convalescing from a surgical intervention. This report, combined with the first-sight evidence, prompted the hypothesis of a classic case of incomplete homicide-suicide. An autopsy was ordered and revealed no trauma or signs of violence, cerebral and pulmonary oedema. A toxicological examination of the blood revealed the presence of Lorazepam (200 ng/ml, within the therapeutic range) and methane (0.094 mg/ml), therefore the cause of death was methane exposure. Soon after recovery, the man was interrogated by the police and confessed he murdered his wife. He had first given her the Lorazepam and then exposed her to methane in the bedroom. Just prior to the entry of the police into the apartment, the man quickly entered the bedroom to ensure that he would be rescued.

These cases confirmed that if methane is detected in cardiac blood at concentrations higher than 0.006 mg/ml, it is possible to diagnose asphyxia due to oxygen displacement as the cause of death. Moreover makes unnecessary determining the composition of the inspired air in cases of asphyxia, measurement very difficult in practice, because one of the first precautions is to guarantee an adequate oxygen supply, e.g. opening the windows.

PP-489

A death case caused by accidental ingestion of corrosive substance

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Background: Ingestion of corrosive substance causes fast and progressive serious burns. This clinical situation means as corrosive esophagitis. Stricture or malignancy may be developed in esophagus during the recovery process. Besides, gastric perforation may be developed outcome of gastric necrosis. Following, damages of the other internal organs may be occured caused by leakage of the corrosive substance in to the abdominal cavity. The aim of the study is to present a 48-year-old woman case, who drank the liquid in the plastic bottle because she supposed it as water and urgently hospitalized with the diagnosis of corrosive substance intoxication, then died in the hospital after 35 days and point out to the precautions for protection from such accidents.

Case: When she was brought to the hospital, her consciousness was confuse, deeply acidosis was observed. Because her respiration was insufficient, she intubated. Free air and liquid were observed at abdominal CT. At the operation, multiple organ necrosis and perforations were determined in gastrointestinal tract. Esophagus, stomach, duodenum, omentum, gallbladder were removed totally. Tube esophagostomy, jejunostomy and choledochostomy were performed. In the following days, seven operations on the gastrointestinal tract were performed also. Although all of the treatment, she died in the hospital at 35th day of the hospitalization. At the autopsy; edema, findings of old hemorrhage, hyperemia, fresh lobular pneumonia in the lungs; hyperemia in the brain and brain stem; stasis in the liver; hyperemia in the kidneys; hemorrhage and purulent and fibrinous peritonitis organized on the bowel were observed in the microscopical examination.
Conclusion: In the present day, owing to advanced diagnosis and treatment methods, mortality rate was decreased in the cases of ingestion of corrosive substance. However, this kind of intoxications may cause serious complications, even death currently. Education for prevent to take these substances accidentally by children and adults will be useful for decreasing to occur such cases. Giving psychiatric support to the persons who have psychiatric problems can be useful for decreasing to occur suicidal intoxication cases also.

PP-490

Fingernail Analysis For Ethyl Glucuronide Using LC/MS/MS

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Introduction: Ethyl glucuronide (EtG) is used for detection of alcohol intake. Finger tissues are a keratinous tissue capable of accumulating material and metabolites. Therefore, they are used especially in the forensic analysis of toxic exposures. In this study, we aimed to demonstrate EtG in fingernail tissue and reveal its correlation with alcohol intake behavior.
Material-methods: Michigan Alcohol Screening Test (MAST) was performed to 16 individuals included in the study. EtG analysis was carried out in fingernail tissue of these cases using LC/MS/MS method.
Results: Michigan Alcohol Screening Test revealed 4 cases as indicating non-hazardous drinking behavior and 8 cases as alcohol abusers, while 4 cases verbally stated they were abstainers. On the analyses, EtG was found between EtG<LOD and 90.52 pg/mg. EtG was observed as<LOD in fingernails of 4 cases who declared they were abstainers. A significant correlation was found between EtG values measured in the fingernail tissues and MAST outcomes on the statistical analyses ($p < 0.001$; $r=0.801$).
Conclusion: In this study, the findings demonstrated that fingernail tissue can be used in detection of alcohol intake.

PP-491

Demonstration of ethyl glucuronide in dental tissue samples by liquid chromatography/electrospray tandem mass spectrometry

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Introduction: Ethyl glucuronide (EtG) has been demonstrated in various tissues and body fluids in revealing of alcohol intake. However, no study was found so far about EtG analysis in dental tissue. In this study, we aimed to demonstrate EtG in dental tissue.
Material-method: Twenty-nine healthy individuals were included in the scope of the study; Michigan Alcohol Screening Test (MAST) was performed to each of these cases. Following the test, cases were divided into 3 groups as non-hazardous alcohol users, alcohol abusers and controls who verbally declared that they were abstainers. A total of 23 tooth specimens were obtained from these cases. These specimens were analyzed using LC/MS/MS method.
Results: All the patients included in the study were male. According to the MAST outcomes, 14 of the cases were non-hazardous alcohol users, and 9 were alcohol abusers, while 6 patients verbally declared that they were abstainers. On the analyses, EtG was found in range of EtG<LOD - 23.39 pg/mg in dental tissues. EtG was observed as<LOD in dental specimens of 6 cases who stated that they were abstainers. A significant correlation was found between EtG values measured in the dental tissues and MAST outcomes on the statistical analyses ($r= 0.914$).
Conclusion: Findings of the presented study demonstrated that dental tissue can be used in detection of alcohol intake.

PP-492

Risk factors for Substance abuse at university students; effects of seperated parents

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Background: Substance abuse is one of the leading social, physical, and mental problems of youths in society. This culture, and subsequent subculture, of substance abuse has been seen to grow yearly. The aim of the study is to investigate awareness of substance abuse culture amongst university students while documenting their views on the subject.
Method: The survey performed consisted of 37 questions, 26 of which were on drug abuse and culture. The remaining questions were regarding demographic data. Surveys were performed with freshmen and seniorsat the pharmaceutical, literary and communication faculties at Istanbul University.
Results: When looking for peculiarities of participants who triedthe substances at least once, we saw most were male (n= 24, %66,7), who had a monthly income greater than 751 TL (n= 14, %38,9), hadseparated parents (n=12, %33,39), had a friend who was a substance abuser (n=24, %75) and lived alone (n=6, %16,7). Those who visit clubs (n=32,%88,99)we saw that most consumed alcohol at least 4 times a month(n=14, %41,2).

Regarding education levels, survey takers usually had fathers with education under the high school level (n=15, %41,7).

Participantswhose parents were together had different profiles. In this group, both the "attending the clubs" and "taking alcohol at least 4 times in a month" were high, and correlated with the level of their parent's education level (high school or more). There was a direct correlation between the "below high school" education level of the mother, and being in environments where drug abuse existed.

Conclusion: Being male, having a high income level, having separated parents, single living, having a father with education lower than high school level, and befriending substance abusers,as well as an increase in alcohol consumption ties directly to the risk of substance dependency.

The education level of thestudent's parents is rendered insignificant if they are not living together. Having separated parents constitutes a single dependent risk factor.

There are independent risk factors for substance usage: being male, having a high income, separated parents, single living, befriending a substance abuser, attending clubs, and consuming alcohol.

PP-493

Novel methodology using microextraction in packed sorbent for the determination of antipsychotic drugs in plasma by GC-MS/MS

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Background: Microextraction by packed sorbent (MEPS) is a recent extraction technique which can be easily connected online to either gas or liquid chromatographic systems without the need of modifying the extracting device. This approach for sample preparation is very promising because of its ease of use, full automation, speed, reduction of solvent volumes (being therefore more environmentally friendly) and the cost of analysis is minimal compared to conventional solid-phase extraction procedures. The aim of this work was the development and full validation of a method for the detection and quantitation of seven selected antipsychotic drugs in human plasma using MEPS and gas chromatography-tandem mass spectrometry. The studied analytes were chlorpromazine, haloperidol, cyamemazine, quetiapine, clozapine, olanzapine and levopromazine. Promazine, protriptyline and chlorpromazine-d3 were used as internal standards.

Method: The analytes were extracted using a mixed-mode sorbent, and were detected in positive ion mode using multiple reaction monitoring. Plasma samples (0.25 mL) were diluted with 0.25 mL of 0.1 M phosphate buffer, and 25 μL of the IS mixture was added. The sample was manually drawn through the sorbent and ejected in the same vial 3 times. The sorbent was washed with 100 μL of 5 % acetic acid and 100 μL of 10 % methanol in water, and the analytes were eluted with 200 μL of 5 % ammonia in methanol. The extracts were evaporated to dryness, and were dissolved in 65 μL of MSTFA with 5 % TMS, and derivatization took place in a dry bath at 85°C for 45 min. An aliquot of 2 μL was injected into the GC-MS/MS instrument.

Results: The described method was fully validated according to internationally accepted guidelines (FDA and ICH). The method was found to be linear between 0.8 and 1000 ng/mL, with determination coefficients higher than 0.99 for all analytes. Under the optimized conditions, extraction efficiency ranged from 61 to 114 %. Intra- and interday precision ranged from 0.24 to 10.67 %, while accuracy was within a ±15 % interval for all analytes.

Conclusions: This is the first time that MEPS was used for the determination of those compounds in biological fluids. It combines a fast and robust MEPS method and GC-MS/MS, enabling the sensitive determination of the studied antipsychotic drugs using a sample amount as low as 0.25 mL.

PP-494

Analysis of salvinorin A in human urine using microextraction by packed sorbent and gas chromatography-tandem mass spectrometry

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Background: Salvia divinorum is an herb material traditionally used for curing and divination by the Mazatec Indians of Oaxaca, Mexico. This plant is of forensic interest due to the hallucinogenic nature of the active ingredient, salvinorin A. The aim of this work was the development and validation of a method for the detection and quantitation of salvinorin A in human urine using microextraction by packed sorbent (MEPS) and gas chromatography-tandem mass spectrometry.

Methods: Analyte extraction has been comprehensively optimized, and the influencing factors were screened by means of the factorial design approach. The analyte was extracted using a C18 sorbent, and was detected in positive ion mode using multiple reaction monitoring. Urine samples (0.2 mL) were diluted with 0.3 mL of water, and the sample was manually drawn through the sorbent and ejected in the same vial 6 times. The sorbent was washed with 150 μL of 8 % isopropanol in 1 % of ammonia, and elution was performed with 100 μL of 3 % formic acid in acetonitrile:methanol (30:70). To prevent analyte loss during evaporation, 2 μL of 1 % hydrochloric acid in methanol (v/v) was added. The extracts were evaporated to dryness, and were dissolved in 50 μL of methanol. An aliquot of 3 μL was injected into the analytical instrument.

Results: Using the factorial design approach, the best extraction conditions were obtained, and all the influencing variables were simultaneously studied. The optimized method was then fully validated according to internationally accepted guidelines (FDA and ICH). The procedure was selective and linear within the studied concentration range, while precision and accuracy were typically below 15 % at all tested concentrations. Under the optimized conditions, the limit of detection was 20 ng/mL, and extraction efficiency was 84 %.

Conclusions: MEPS has shown to be a rapid (<2 min) and simple procedure for the determination of salvinorin A in human urine, allowing reducing the handling time and costs usually associated to this type of analysis. Furthermore, the fact that only 0.2 mL of sample is necessary make this method a valuable and powerful tool for drug monitoring in human urine in situations where this compound is involved, for instance in forensic scenarios. Moreover, this is the first time that MEPS with GC-MS-MS was used for the determination of salvinorin A in biological fluids.

PP-495

Analysis of Methanol and Its Derivates in Illegally Produced Alcoholic Beverages

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Introduction: Illegal alcohol production is an important worldwide problem. Methanol poisoning mostly occurs because of the methanol used in production of counterfeit alcohol instead of ethyl alcohol due to its low price or by drinking the liquids containing methyl alcohol. Methanol can naturally be produced in the anaerobic metabolism of many varieties of bacteria, and is ubiquitous in the environment. Methanol intoxication is infrequently encountered in forensic medicine practice. However, sporadic cases due to methanol intoxication as well as epidemic cases have been reported. In this study, we aimed to identify existence of methanol and its metabolites in illegally produced alcoholic beverages used in Antakya region.
Material-methods: Fifty-six different alcohol samples were collected from the markets and local producers (out of the control). Existence of methanol, formic acid, methyl amine, methyl formate and trioxan were determined by using GC-MS method in the samples.
Results: Fifty-six different alcohol samples were included in this study. Methanol was detected in 39 (75 %) of samples. Formic acid was detected in 3, formamide in 1, methyl amine in 6, methyl formate in 10 and trioxan in 2 samples. None of the commercial alcoholic beverages produced under the state control contained methanol and derivates. Percentages of substance in analyzed alcohol are presented in the Table 1. (Table1)
Conclusion: Methanol intoxication is an important public health and forensic medicine problem because of the epidemic cases. Protective measures should be developed about using of the liquids containing methanol. In addition, alcohol producers and seller workplaces should be regularly audited and criminal sanctions should be increased against the workplaces selling alcoholic beverages containing methanol.

PP-496

Death of three neighbors after application of Aluminium Phosphide fumigants in a factory

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Aluminum Phosphide or rice tablet is one of the most common pesticides which lead to accidental or intentional intoxication and finally death. The manufacture and application of aluminium phosphide fumigants pose risks of inhalation exposure to phosphine gas.

In this paper, we describe the case of a family living just above a factory packaging tea bags. Among the four members of this family, three died in an array of hypovolemic shock associated with incontrollable vomiting.

Initially, in the absence of adequate guidance and regarding to the gastrointestinal symptoms presented by victims, a collective food or criminal poisoning was suspected. However, when the forensic team moved on site of death, a strange smell was felt. By interviewing the owner of the factory, it was found that a pesticide was used to disinfect the room under the victim's apartment two days before the victim's death.Later, the compound was identified as aluminium phosphide, and the life of the last surviving child in the family was saved.

In this study we have try to understand the mechanism of death resulting from exposure to phosphine gas and especially in the case of this family.

PP-497

Detection of some toxic anions in biological samples "a case study"

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Background: Dramatically three successive sudden cases of deaths happened in an open area during a reclamation process.

It was postulated to be an exposure to a high concentration of toxic gas/gases.

After investigating the accident scene and interviewing witnesses the possibility of exposure to one or mixture of the following gases: HF, H2S, HCl and HCN, was brought to the team work mind.
Methods: Anions of expected toxic gases were extracted from blood using acetonitrile deprotenization method. Distillation of blood and lungs was also carried out in acidic media.

IC "ion chromatography" followed by conductivity detector and absorbance detector were used for analyzing biological samples extracts, in addition to GC/MS.
Results: Sulfate was detected in the three cases, while cyanide was detected in one of them.
Conclusion: A chemical reaction should have happened between the materials used in the reclamation process and the sewage/industrial output wastewater present in the accident scene, resulted in these sudden deaths. This reaction was expected to produced HF, H2S, and HCN. Sewage wastewater and industrial output water were the sources for cyanide anion.

Acetonitrile deprotenization method successfully extracted mentioned anions except cyanide. Since H2S in high concentrations is odorless; victims may inhale lethal doses without being aware.

PP-498

White spirit and murder

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Introduction: This case, of legal importance and interest, involved a murder presumably committed by incapacitating the victim with a volatile substance and violent mechanical asphyxiation by suffocation. The court's solution to the case was founded on essential comparative chemico-toxicological analyses and results from non-biological materials obtained during investigations and from biological fluids taken from the body.
Method: The corpse was subjected to a necroscopic ascertainment, including both macro- and microscopic assessments.

During investigation of the crime scene and of the place where the main suspect lived, three tins containing paint solvent were found and sampled. The resulting non-biological findings were then qualitatively analysed for volatile substances by HS-GC-FID and identification of their components by SPME-GC-MS. Fluids and tissues sampled from the body were subjected to a general search for non-volatile organic substances by GC/LC-MS and for volatile substances by HS-GC-FID and SPME-GC-MS. The chromatographic profiles of both biological and non-biological analyses of samples were evaluated comparatively.

Results and discussion: Chemico-toxicological analyses on non-biological samples revealed two different hydrocarbon mixtures (corresponding to two typologies of white spirit) and trichloro-ethylene. Macro- and microscopic autopsy ascertainments showed the typical signs of violent mechanical asphyxiation by suffocation. The chemico-toxicological analyses of body samples identified a mixture composed of 50 volatile compounds, and excluded the presence of any other substance. Comparison of chromatographic profiles showed a significant overlap between the mixture of hydrocarbons identified in the body and in the white spirit found. Haematic quantification of 1,2-dichloropropane, composing 4 % of the hydrocarbon mixture, allowed the concentration of solvent in the blood to be estimated at 11.5 mg/L, a toxico-dynamic level which would have incapacitated the victim.

Conclusions: The methodology adopted and the results of the comparative chemico-toxicological analyses, between biological and non-biological samples, were diriment in order to reconstruct the dynamic of the homicide, the role of the homicidal conduct and the employment, never signaled in the literature, of white spirit as an incapacitating agent.

PP-499

Counterfeit Drugs for the Enhancement of Sexual Function

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Aim: Drugs, such as sildenafil, tadalafil, verdanafil are used in the treatment of erectile dysfunction. Nevertheless, they can also be manufactured by clandestine laboratories and sold illegally in the market and through internet without any control for the enhancement of sexual function. We aimed to draw attention to these uncontrolled products sold in Turkey which create a serious problem.

Materials and Methods: Pharmaceutical compounds seized by legal authorities in the form of tablet, capsule, colored liquid, spray and cream are sent to the Council of Forensic Medicine Department of Chemistry for analysis. Materials received between August-December 2011 were included in this study. Following physical examination, the content of these drugs were analyzed with HPLC, GC/MS and LC/MS/MS techniques.

Results: Seven kinds of tablets and one kind of capsule contained sildenafil or tadalafil only. However, one tablet form contained both sildenafil and tadalafil together along with diclofenac. The type and amount of active drug was mentioned correctly on the boxes in 44 % of the compounds. However, 22 % had significantly less amount of active drug than the mentioned dosage. There was no information about the dosage in 34 % of them. All of the liquid, spray and cream forms had lidocain as the active ingredient. Vitamin E or ethanol was also found in these forms.

Conclusion: Counterfeit forms of erectile dysfunction drugs such as sildenafil, tadalafil, vardenafil and their illegal trade is an important problem in the world as well as in Turkey. The type and amount of the active substance as well as other ingredients in these products are not mentioned correctly on their packages, therefore in addition to the legal issues, counterfeit drugs result in serious health problems for their users and should be handled seriously by health and legal authorities.

PP-500

Death from narcotic drugs in Albania

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Background: Drug use among the general population and young people has spread significantly in the last few years in Albania.

These trends have led to measures to combat drug trafficking, preventive measure regarding use, treatment (detoxifications and over-dose treatment), particularly in cases of drug-related infections disease, HIV/AIDS, hepatits B and C, syphilis.

Particular cases involve deaths from narcotic drugs, which are rare in Albania.

Method: Review of the respective literature; Reports of autopsy of 12 narcotic drug death cases of the Institute of Forensic Medicine in Tirana or the period 2005–2012.

Results: From the analysis of mortal medico-legal cases from narcotic drugs, it was observed that in these cases, 10 correspond to males and 2 to females, of ages from 24 to 60 years old. Also, in these cases, 10 correspond to Albanian citizens and 2 of the cases foreign citizens: Turkish and American.

In general, these cases are accidental or unexpected deaths resulting from injections or oral intake of morphine, heroin, cocaine, and ethanol. Death results from the overdose or poisoning mainly through the mechanism of asphyxiation. In one of the cases, death resulted from the alcoholic coma, while in another case from a heart attack. The paper includes a detailed analysis of these cases.

Conclusion: Deaths from narcotic drugs in Albania have been recorded in the medico-legal cases of our country. The full knowledge of these cases will help in the their reevaluation, diagnosis and prevention.

PP-501

Awareness of Drug - Substance Culture Among Users

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Background: Substance abuse is one of the leading social, physical, and mental problems of youths in society. This subculture of substance abuse is rapidly growing. This study aims investigate awareness of substance abuse culture amongst university students while documenting their views on the subject.

Method: The survey consisted of 30 questions, 23 were on drug abuse and culture. The remaining questions were regarding demographic data. Surveys were performed with 100 patients, under control of a substance abuse clinic.

Results: Cannabis was most prominent; 93 % admitted using the substance. Ecstasy, heroin and cocaine were 86 %, 65 % and 54 % respectively. Drugs other than ecstasy were 29 % for Rohypnol, 12 % for LSD and 5 % for ketamine. None of the participants used GHB. 86 % of patients admitted using club drugs, however, 62 % participants claimed not to have done since one year; nonetheless 66 % of patients emphasized their continual usage of heroin, despite their therapy. Ecstasy was the most common answer for the question of "If you used multiple club drug in the past, which one was the most common one?"

Cannabis and ecstasy were deemed to be drugs most commonly used in the transition to higher profile drugs. We asked perceptions of participants about 1-) dependence potential of drugs. The participants denoted heroin at the first order, by a ratio of 92 %. Ecstasy (65 %) was the second most frequent answer; 2-) hazardous potential of drugs, the participants denoted heroin and ecstasy, by the ratios of 95 and 65 %, respectively. 98 % of them had emphasized, "they don't advise using ecstasy to their family members.

Conclusion: Ecstasy is one of the most widely used substances in the subculture and is second to Cocaine as a club drug in the subculture. In terms of other club drugs LSD was most the most frequent answer. In terms of non club drugs, cocaine was the second most frequent answer after ecstasy. Ecstasy users accept that the drug is both dangerous and addictive. In both categories heroin surpassed both drugs. Moreover, all of the users claimed they would not give it to family members. This fact supports the dangerous and addictive connotations that the drug has. When taken into consideration that %66 of users still abuse heroin, we can see the evidence that physically addictive club drugs are easier to quit.

PP-502

A Speedball case from Turkey: solved by Systematic Toxicological Analysis

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Cocaine and heroin are frequently co-abused by humans, in a combination known as speedball. In speedballing, heroin and cocaine are injected together intravenously. Cocaine abusers use heroin to reduce the agitation produced by cocaine. Speedballing accounts for 12-15 % of cocaine-related episodes in patients presenting to EDs in the United States1 In our knowledge, it hasn't been reported any speedball case yet in our country. In this study, a patient, who had denied "Speedball" abusing, will be examined in clinical aspect and by systematic toxicological analysis.

A married 33 years old woman was admitted to Emergency Room in Cerrahpaşa Medical Faculty, with various complaints. Her CK-MB value was 45. Cardiac enzyme level was on the upper limit. No sign was observed, that can be caused due to sympathomimetic agent. In addition, she declared that she was poisoned by alprazolam and sertraline. After the clinic examination, toxicological analysis requested from the Forensic Toxicology Laboratory in Institute of Forensic Sciences. As a result of High Performance Thin Layer Chromatography (HPTLC) and Gas Chromatography Mass Spectrometry (GC-MS) analysis of serum samples of the above mentioned patient, heroin and cocaine were determined simultaneously instead of alprazolam and sertraline.

GUN SHOTS

PP-503

FORENSIC BALLISTICS – field research with tests carried out with weapons of common calibers used in the practice of crimes in Brazil and in police repression

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Introduction: There are now few articles related to ballistics and absence of technological details of the armaments. We mention especially the incoming damage by projectiles from a firearm on the corpses, when is merely say that the shots were at close range, short distance and long shot.
Objectives: The main tests are done on paper and / or vegetal tissues. It is necessary to use biological material compatible with human tissue and description of the caliber of the weapons associated with the injuries.
Methods: We evaluated the local aspects of the lesions and alterations of entry of the projectiles in pig skin, using and 10 hind legs and 1 rear leg of Large White pigs. The shots were made by experienced shooters with weapons of various calibers, prioritizing those used in crime and police repression, with approximate distances at the time of the shooting. In respect of injuries to entry of shots from rifles, which are classified by most authors as injuries caused by high-energy projectiles, present in greater detail the tissue changes found around these lesions, that somehow differ, and much of what has been described to date.
Results: The local characteristics of the entry wound of a close range shots suffered significant modifications to the deployment of sophisticated mechanisms in automatic weapons and semi-automatic, as the 'recoil compensation. The wounds are replaced in this case some characteristics of shots at short distance, despite the shooting were carried out at close range distance.
Conclusions: The characteristics of injuries caused by the shots (tests) and ammunition of different calibers were quite varied, especially in the peri-lesional marks around the entry wounds. These steps may help in the primary criminal evaluation performed by professionals with little experience, facilitating their understanding and conclusions. The findings alter the descriptions of the features found in and around the tissues of the injuries, questioning of what is described.

PP-504

An unusual nailgun suicide

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A 56 year old man with known psychiatric co-morbidity was found death in bed. External examination showed a metallic thin object penetrating the sternum with little bleeding on the surrounding clothes. A disconnected nail gun was found in the adjacent room without any blood traces between the body and the nail gun.

Postmortem imaging and an autopsy were performed to determine whether the victim was able to inflict the atypical ballistic trauma himself and maintained the ability to commit certain acts, like disconnecting the nail gun, afterwards. Imaging showed a slight, at first sight non lethal, hemopericardium and no significant thoracic blood collection. The nail was found penetrating the thorax forming a trajectory in between the heart and the liver through the pericardial sac and the left diaphragm. Autopsy revealed pericardial fibrosis and a hemopericardium of 295 ml. The cause of death was determined to be a bleeding through a small nick in the apical right ventricle into the already fibrotic pericardial sac eventually leading to a fatal cardiac tamponade. Toxicological screening was negative. Further police investigation discovered a similar 'accident' on the work floor a few years before, accounting for the pericardial fibrosis.

Suicide by ballistic trauma is very common, though using a nail gun, especially to the thorax, is less seen. This case reports shows that postmortem imaging and autopsy findings are complementary and crucial to determine the manner and cause of death in this atypical suicide.

PP-505

An unusual case of firearm injury: bullet lodged in the tongue

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Background: Firearm-related injuries are a major problem worldwide and one of the central issues in forensic pathology. An unusual presentation of a bullet trajectory can create surgical or medico-legal diagnostic problems. The bullet trajectory is one of the parameters' which affect the extent of tissue damage in gunshot wounds such as distance from which the gun is fired, bullet structure, size, and velocity. Predicting the missile trajectory may also be of help to law enforcement agencies and forensic scientists in determining the type and severity of firearm injury and direction of fire.
Method: We aimed to present a case of interesting gunshot wound.
Results: A 23-year-old man suffered two gunshot wounds, was taken to emergency department immediately after the incident. According to his hospital reports, he was cooperative and fully conscious, the vital signs and neurological examination were normal when he arrived at the hospital. The neck examination was also negative. The carotid artery pulses were present and equal bilaterally. Physical examination revealed two entrance gunshot wounds on the left lumbar region under the lower margin of left scapulae and right gluteal region. An exit wound was defined on the lateral side of the right gluteal region which was located 5 cm distance of entrance wound. Lateral and anterior-posterior cranial X-rays showed a bullet in the tongue without any life threatening impairment.

A thoracic CT scan and abdominal USG were normal. Following the initial examinations he was hospitalized and the bullet removed from the tongue by a simple surgical operation. He was discharged from hospital on the sixth day of surgery.
Conclusion: Despite considerable variability of gunshot injuries, their forensic-medical examination include some basic components such as whether there is any life threatening injury, differential diagnostics of the consequences of multiple injuries attributable to each traumatic factor of the shot, and determining models of the weapons and distance of shot by experimental ballistic investigations. To the best of our knowledge, this is a rare case report in the literature describing a case of a bullet lodged into the tongue after a gunshot injury without any life threatening vital tissue damage although presence of a long bullet trajectory passing near the various important vital structures.

PP-506

The Importance of Radiological Methods in Determination of the Characteristics of Firearm Bullets Inside the Body

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To determine the characteristics of bullets which cause firearm injuries is highly crucial. This matter is one of the most important determinants of juridical cases which make radiologic methods essential to assess the bullets unlikely to evacuate from the internal body. The study is planned to search the contribution of radiologic monitorisation methods in determining the dimensional characteristics of bullets.

Bullets supplied from Forensic Medicine Institute Specialization Board and radiologic monitorisation applied for the study. The graphies of bullets of 3 different 5.56x45 mm, 7.62x39 mm and 7.62x51 mm rifles and 2 different 7.65x17 mm ve 9x19 mm pistols were taken with a distance of 100 cm from the tapes and 90 degrees angle to the bullets by sustaining the beam of light coming through directly. Computed tomography scan was taken for the bullets in the same position. After scanning, the dimensional deviance of the tomographic images and direct graphy of the bullets which had well-known units of measurement had been evaluated. It was established that the deviation ratio of the tomographic images was much more and the calculated values of the direct graphy were most likely close to the real values. The results are examined according to the radiologic monitoring alternatives and standard scan conditions.

PP-507

A Case of Sensory-Motor Deficit at Cruris Caused by Indirect Effect of an Air Powered Weapon Pellet

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The peripheral neuronal injuries of firearms are mostly occurred with the direct effect of bullets. It is reported that the kinetic energy of bullet results indirect tissue damage away from the trajectory of the bullet. One type of the guns, which are used commonly, is air-powered gun. Because the air powered guns own without any certificate, they are bought easily and used without any control. Death was reported by the wound occurred with air-powered guns. A 22-year-old- man brought to the emergency department on his foots by his family's help who wounded with an air powered gun on soft tissue of right leg, under the knee. An indirect injury of superficial peroneal nerve was determined in examination. It is understood that the injury was occurred with the indirect effect of the pellet according to results of clinical evidence and observation. Although direct lesions of firearm bullets are well known, indirect effect of air powered gun pellet is rare. Purpose of this case report is to take attention on the injuries of indirect effect of air powered gun pellet, just as firearms.

PP-508

Fatal firearm wounds. A five-year retrospective study in Northern Tunisia

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Little is known about firearm fatalities occurring in Tunisia. To our knowledge, no previous related study has been reported. Our study aimed at identifying the incidence, prevalence and characteristics of these incidents.

Fatal firearm injuries occurring between January 1st 2007 and December 31st 2011 and investigated in the department of forensic medicine in Tunis were reviewed and retrospectively analyzed for the victims' age, gender, month in which the violent event took place, scene of the event, site and number of entrance wounds, weapon type used, cause of death and manner of death (i.e. homicide; suicide; accident).

A total of 71 cases were retrieved, which accounted for 0.9 % of all cases investigated during the five-year period. Fifty-seven cases were classified homicides, 12 cases suicides and 2 cases accidental firearm deaths. Overall firearms accounted for 13.25 % of homicides and 2.3 % of suicides that occurred during the study period. It is noteworthy that among the 71 cases, 45 were directly or indirectly related to the revolution Tunisia had known in January 2011.

Victims were most frequently males (64) with a male to female ratio of 9:1. Victims were aged 16 to 82 years old with a mean age of 32.75 years. Homicide versus suicide ratio was 4.75:1 with males being involved most frequently in both homicides and suicides. Of the 12 suicides, one was committed by a man who had murdered his wife using the same firearm thereafter for committing suicide.

Four firearm victims were initially buried and then exhumed and autopsied 1 month to 19 years after death and were all homicide victims.

Putting aside homicide victims during revolution, who were shot either with a handgun or a rifle, shotgun was the most frequently used weapon for committing both homicide and suicide. In the other remaining instances where homicides and suicides were committed with a handgun or a rifle, perpetrators or victims were either police officers or military.

PP-509

Estimation of Shooting Distance by Flameless Atomic Absorption Spectrometry (Gf-Aas) Method in Experimentally Formed Shooting Residues

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Background: Determination of shooting distance has a great importance for solving the problems of forensic cases in which the firearms are used. Shooting distance helps to clarify how the crime has taken place, as well as that it helps to confirm the statements of suspected person/s and witnesses.

In the study, after direct firing to the skin from different distances, the particles that were collected from the area around the bullet entrance hole were investigated by the Flameless Atomic Absorption Spectrophotometry (FAAS) method and it was aimed to detect the relationship between the gunshot residues and the shooting distance in death cases related to gunshot injuries.

Material-method: In this study, 5 shots were realized from each distance (0 cm, 5 cm, 15 cm, 30 cm, 45 cm, 60 cm, 80 cm and 100 cm) to the targets which were cut from shaved calfskin, with 9 x 19 mm parabellum and 7,65 x 17 mm browning cartridge. After each shot, the samples that were collected from targets by plasters were studied with FAAS method, lead and antimony values were measured. Statistical analysis of data were realized by using SPSS 14.0 Packet Program.

Results: For both caliber cartridges, it is observed that measured lead and antimony levels decrease as the distance increases. It is founded that, as the distance increases, the changes in levels of measured lead are more significant in comparison with the levels of measured antimony.

For both caliber cartridges, at the same distances, measured levels of lead are founded to be within a wider range in comparison with the levels of measured antimony. High standard deviation values specifically observed in close fire distances are found to be decreasing as the distance increases.

Conclusion: According to the evaluation it is determinated that gunshot residue distribution does not show a linear character. No evidence could be founded about the gunshot residue distribution showing a linear character in case the number of shooting was increased. In the study, a regression formulation was created for both lead and antimony amounts, however this formula can not verify enough reliability; thus, it is estimated that it hasn't got applicable confidence for criminal cases.

PP-510

Shooting distance estimation in clothing

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Background: During discharge of a firearm a variety of materials is emitted by the muzzle (accompanying the bullet) and other possible openings in the firearm. These materials include primer and gunpowder (propellant) residues and metal particles from the bullet and cartridge case.

Muzzle-to-target firing distance is often a crucial determination in the investigation of incidents involving gunshot wounds. When possible, firearm's examiners use the suspect firearm and the same type of ammunition to make fires test from different distances into the targets.

We describe a case where the detection of firing distance was revealed by the observation of microscopic features of damaged fabrics since the victim of the shooting was subjected to surgery.

Method: the victim worn dark trousers made of polyester that present 3 bullet holes, one next to the anterior right pocket, and the other two under the fly. The forensic pathologist and the balistic took a stripe of the fabric and, with the same gun and ammunition used during the shooting, start to shoot at different distance to two layers of the fabric that was detached each other by a roller of pork skin.

Results: We examined the specimens of fabric under a light microscope in transmitted bright field comparing with the bullet holes found in the pants for detecting similarities on tissue damage.

Conclusion: Based on the obtained results, we can conclude that this research seems to be useful in similar cases, where It is difficult only from the gunshot residues or skin lesions to detect the right direction of the bullets, since the tissue damage around the bullet holes serves for detecting shooting distance and where the entrance and the exit of the bullets are.

PP-511

An Unusual Case Report of A Cross Path of Bullet From Neck to Face

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Background: Suicide and homicide incidents by firearms are of importance in forensic medicine. Non fatal injuries with cross path of bullet from neck to face by handguns are seen extremely rare.

In actual forensic cases, while firearm woundings are complex medical conditions with variables of round size, velocity, shape, spin, shooting distance, miscellaneous tissue characteristics influence patterns of organ damage along the bullet trace.
Methods: Following the examination of the individual who was sent to our department of forensic medicine for forensic examination report by DA's office, we have reviewed the medical and legal investigation documents of the case, and literature about the firearms.
Results: In our case, the victim, a 54 year old man was shot by a handgun last year, from a 5–6 m. distance. In the hospital he was taken, a firearm entry wound on the upper right neck region and an exit wound on the left side of the nose has been recognized. He hasn't lost consciousness at all. Glascow Coma Scale rated 15 at each examination. CT scan showed partial fractures at the nasal bones, nasal septum, ethmoid sinuses, bilateral maxillary sinuses, and the orbital base, scattered milimetric air densities located around fracture course, air ventilation loss in paranasal sinuses and images consistent with bleeding.

He was discharged after a 2 day follow-up in Neurosurgery clinic, as intensive care stay was deemed unnecessary. He had no deficit other than a conductive type hearing loss in the right ear.
Conclusion: It should be known that firearm injuries wouldn't always end up with such insignificant loss as it happened in this case.

PP-512

Course History of a Non-Jacketed Bullet Fired from an Antique Revolver: An Elderly Suicide

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Background: The study aims to present a suicide case realized by way of using an antique revolver by an elderly person diagnosed with colon cancer five years ago and have psychological problems, and to discuss the pattern of the injury. Also we aim to have a look to the relation between cancer and suicide and draw attention to the elderly suicides.
Case: The case was a 94-year-old male. His wife and son reported that they heard one gun shot, then found the victim's corpse in his bedroom.They also told that he did not accept treatment of the cancer for a certain time and have psychological problems.

In the scene investigation, it was determined that the victim was laying on the ground between the cupboard and bed, an antique revolver was placed next to the victim. There was a blood pool under his head's left region. On the parquet, a small round defect was seen at the central region of the blood pool which was occurred from beating of the bullet's tip on the parquet.

In the external examination of the autopsy, an entrance wound with abrasion ring and smut created by bullet was detected in the right temporal region, and a tear-like exit wound was observed in the left parietal region. A deformed without jacket bullet was found underneath the skin of the site of exit wound.

Consequently, according to the scene investigation and autopsy findings it was concluded that, the bullet entered into head from the right temporal region. Following its tip exited from the left parietal region skin by forming exit wound, and then hit to the parquet on the ground by causing small round defect. Following, it remained inside of the exit wound in subcutaneous region. The shooting range was contact distance.
Conclusion: Therefore, it is remarkable that the bullet remained under the skin after forming exit wound on the skin and creating small round defect on the parquet due to hitting. According to the assumptions, since the kinetic energy of non-jacketed bullet of the antique revolver was low, its tip pierced the skin, crushed into the ground and became deformed, and then its kinetic energy decreased even more with the impact of such crush, and therefore it lacked the required energy to go out from the skin totally. This case also point out the need of psychiatric support of elder and cancer patients.

PP-513

A Bullet That Cannot Be Taken Out Of The Body Because Of Medical Reasons And Three Suspicious Guns: Case Report

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It is important to obtain the material which serves as evidence of an event for clarifying in forensic cases. We aimed to share an unresolved criminal case because of a bullet that cannot be taken out of the body due to medical reasons.

20-year-old male patient was brought emergency service due to injury of the gunshot on the left side of the neck. He was wounded accidentally at the entertainment of being a soldier and during sendoff ceremony. He was transferred from Region State Hospital to our emergency service after ten hours of the incident. Vital findings were stable. By entering left anterolateral at lower cervical level, the bullet passed through oblique to the left thyroid lobe, broke the integrity of the wall of posterior trachea and esophagus, hit to the T1 thoracal vertebra corpus and was seen as 11 mm foreign body at anterior of first rib in the computed tomography. A team of general surgery and ENT operated the patient immediately because of the injury of the trachea and esophagus. By the incision in cervical region, the trace of bullet shown clearly and the left thyroid lobe was fragmented, the left recurrent laryngeal nerve was intact, but integrity of the right recurrent laryngeal nerve was impaired, there was tissue defect and perforation about 3,5-4 cm at the posterior of the trachea with the perforation field of 3-4 cm of esophagus on the right lateral side. There was no injury with main vascular structures and no significant soft tissue hematoma was seen. Because of the bullet's proximity to major vascular structures and nerve roots of the region and patient with any

motor-sensory deficits, lack of hemodynamic instability, the team decided not to take the foreign body out of the body. Esophagus and trachea were repaired primary and the operation was terminated.

We learned from local law enforcement officials that three separate guns on the same scale were fired during the incident. They needed the bullet which was in the body to identify the perpetrator who owned one of the three guns which was responsible. So a criminal case has remained unresolved because of the absence of bullet for the event.

As a result, cases of death or injury with gunshots, the presence of more than one suspected weapon, it is very important that obtain of bullet from corpse, wounded, or the scene area to identify the perpetrator for the crime.

PP-514

Retrospective Investigation Of Deaths Due To Firearm Injuries In Eskisehir Between 1999–2008

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Deaths due to firearm injuries shows various demographical properties that can change depending on different variables.It's reported that there's a rapid increase in the number of deaths due to firearm injuries in numerious countries.It's also reported that the most frequent reason of deaths in our country is firearms.Besides, in the cases of deaths due to firearm injuries, forensic medicine are required to answer to a number of questions like the origin, gunshot distance, gunshot direction, the way of bullet in the body, the number of gunshot incisive to body, the murderous ones. The aim of this study is to investigate the diffferences between cases of deaths due to firearm injuries in Eskişehir, the other cities in Turkey and the related studies in the world.In the department of forensic medicine institute Eskişehir, of the cases of cadaver examinaton and/or the cases whose autopsies are carried between 1999–2008, 141 are (%62) cases of deaths due to firearm injuries. It's found that % 78,7 of 141 cases was male, %21,3 of these cases was female, the rate of cases between 21–40 was high, and the cases whose injuries are in the head- cervical region were composing the first line of incidence.It's found that in most of the murders, handguns were used, suicides were committed most frequently inside the houses, the origin in the cases of deaths after contact/near contact shots was suicide, the most frequently used gun was handguns in the city centered injuries, and the most frequently used gun was shotgun in village centered injuries.In the cases of deaths due to firearms, it's important to investigate the crime scene and autopsy processes in terms of clarification of the case.So, all investigations should be carried by professional teams.With the importantance of educating the society to decrease the percentage of cases of deaths due to firearms, it should also be noted that the requirements of weapon licence should be reexamined.

PP-515

Intracranial Migratuar Bullet: A Case Report

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Wounding by firearms and shooting range play an important role in the assessment of traces and sequela lesions in the late phase. Examinations conducted during early phase and clinical symptoms are evaluated with the sequel symptoms. Traumatic case and clinical picture are scrutinized in terms of relation of casualty. Cases which are defined as migratuar bullet are important in this respect and unstable situations in clinical course and the quality of sequel symptoms requires more detailed examination. Migratuar bullet cases are not common in literature. It is stated in a case that a man, 43, who was wounded by a single migratuar bullet in his frontal body was taken to the emergency department and immediately operated applying craniectomy, decompression and debridement; however, because of its location, migratuar bullet could not be taken out in the operation. It is determined that the migratuar bullet image which was seen in the suprasellar region in the CT of the head scanned on the case date changed its place towards the upper part of 4. ventricle in the CT after 2 years. In the examination conducted by our institution, epilepsy, incontinence, right facial paralysis and dysphasia are identified and when the case is evaluated overall, it is decided that last clinical picture is compatible with organic brain syndrome. Since this case can be a leading factor for the assessment of physician's liability in the evaluation of the link between permanent sequel symptoms in forensic medicine applications and complications that can be seen in the late phase of patients who have not undergone early phase operations, it is thought to be worth reporting.

PP-516

Intradural Extramedullary Gunshot İnjury: Case Report

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The incidence of a spinal cord injury from gunshot wounds in penetrating trauma continues to increase with the violent nature of society. The aim of this article is to present one case of penetrating gunshot injuries to the lumbar spine and discuss the necessity of early surgery and physical therapy.

Case, male 35 years old. Hospitalized due to gunshot wounds and from the waist and feet of inactivity. There were bullet entry hole in the patient's flank region and entry - exit wound in his right leg and the patient had paraplegia. After the L2 total laminectomy and flavectomy the dura was removed under a microscope and intradural localized bullet removed. There was no bone defect on radiological studies, and during the surgery. It was remarkable. In our case, surgery was performed immediately after the injury and postoperative physical therapy was performed early. In Postoperative follow-up neurological improvement was observed. On examination 2 months after the surgery his motor deficit was improved to 2/5 muscle strength on left leg extremities, and 3/5 muscle strength on right leg extremities. As a result, early physical therapy in such patients after early surgical remove, the healing process provide be faster

PP-517

A Case Of Suicide With A Handmade Gun Mechanism

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It is strictly restricted by law to possess and provide guns. However, any person can manufacture a gun without any legal

responsibility by fulfilling the simple instructions. Handmade guns are produced illegally more often in developing countries, because they are cheaper and easier to get. Our 28-year-old male case who was a welder and a drug user committed suicide with the handmade gun mechanism that he produced in the basement of his house. A metal pipe that was 69.5 cm. long and 2.1 cm. in diameter and a number 12 shotgun cartridge were seen in the scene. No characteristic of any track (the firing pin hammer, extractor marks, nail marks) concerning the cartridge was used with a fire gun could be detected in the microscopic examination of the number 12 cartridge. It was considered that the number 12 shotgun cartridge was placed on one end of the metal pipe leaving the bottom plate outside, the latch of the welding machine was attached to the pipe and the cartridge was exploded by touching of one end to the cartridge. The pipe that had an end based on the forehead formed a 3x2 cm. bone defect on the frontal with burns around. Our study that may be useful in the practice of forensic medicine represents an unusual case in terms of the suicide tool, weapon and the suicide method.

PP-518

A Dead, A Suspect, A Weapon: Homicide or Suicide?

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In our case report; we bring a case to attention that we have never seen before. There were two humanbeings in the crime scene. One: the dead; the other: the suspect. In the face of suspect, we have seen and reported the tattooing which we normally see at the target body in the near shot lesions at the suspect causing from the pistol. We estimated all of the findings in the court file. In the context of this case it was aimed to throw light on the background story.

In the court file sent to the First Specialization Board; Council of Forensic medicine; a single woman who died from a contact shotgun injury while she was alone with her boyfriend in her house was described. Her boyfriend told the police that she killed herself; it was a suicide. The lesions on his face casted doubt on him. In the court; he told that this lesions has became when he was trying to take shotgun from victim and the gun his fired; this lesions were because of the gun powder. The court questioned us if he was telling true or not! In the Physical Department we shot the gun -Zigana sport marked; 9x19 mm; semiautomatic; with compansator and cooling hole on the barrel- used in the case and compare the lesions on the photo with the exit of gun shot residues as a result of several shots; and so even if the barrel hole is contacted with the target; it seemed possible to cause lesions the gunshot residues exiting from the compansator holes to another person near to the gun.

So that; we reported that; depending on the characteristics of this type of pistol, shot gun residues can spread to the ones near the target. So that our findings overlapped with the story of suspect and settled a doubtfull case.

PP-519

The role of post-mortem multislice computer tomography in suicidal single gunshot injury: autopsy and virtopsy

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Post-mortem multislice computer tomography is a new approach in forensic pathology for helping investigations. Gunshot injuries are one of the foremost fields of post-mortem forensic radiology. MSTC is performed to locate the projectile, to identify entrance and exit wounds, to detect bullets and bullet fragments in the body, to show the bullet course and others inflicted injuries. Also it is possible to do 3D reconstruction of the soft tissue and skeletal injuries. The aim of this study is to determine the differences between data collected by MSCT and data collected by autopsy investigations in the reconstruction of site gunshot entrance wound and the direction of the bullet path. In this study we report two cases of death due to suicidal gunshot injury. In the first case a 80-year-old man was found dead in the bedroom of his apartment with a gun in the right hand. An external examination of the victim showed devastating head injuries. In the second case a 81-year-old man was found dead in his apartment. He did not have any gun in the hand because it was removed from the police. In this case an external examination showed the anatomical site of gunshot injuries. Post-mortem radiological investigation (MSCT) and autopsy examination were performed in these two cases. The determination of entrance and exit wounds was reconstructed from the characteristic fracture pattern with inward or outward bevelling of the bone respectively. In this study MSCT showed an overvalued internal haemorrhage and a precise detection of skeletal injuries and skull fractures. Circumstantial data and autopsy investigation showed cause and modality of death. For this reason radiological approach is very important for reconstruction of gunshot injuries but it does not give any information about modality of death.

PP-520

Homicides-Gaziantep (2005–2011)

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In this study, between 2005–2011 retrospectively examining the murders that occurred in the center of the province of Gaziantep, Gaziantep region profiling of the homicide cases and was aimed to shed light on future measures to that can be taken.

Total 463 cases, 387 percent (83.6 %) were male and 76 (16.4 %) were female. Used in a crime of firearms used in homicides the most 303 (65.4 %), and then stab 131 (28.3 %), assault 11 (2.6 %) is located. Most 103 homicides in 2006 (22.2 %) was processed, respectively, in 2007, 100 (21.6 %) in 2010, 76 (16.4 %), in 2005, 71 (15.3 %) in 2008, 45 (9.7 %), in 2009 37 (8.0 %), 31 in 2011 (6.7 %) has occurred. The most 161 homicides the 21–30 age group (34.8 %) and it occurred in, respectively, 31–40 age group, 121 (26.1), 41–50 age group, 68 (14.7 %), 11–20 age group, 61 (13.2 %), 51–60 age group, 30 (6.5 %), followed by homicide.

Whatever the cause of death, all deaths considered as a forensic accordance with procedures complete autopsy should be performed. Appropriate conditions must be post-mortem examination by forensic experts in cases of murder, with all the necessary equipment at a center of medical and human must be made complete.

HUMAN RIGHTS

PP-521

Occupational neoplasms prevention in the state of parana – brazil

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The rates of cancer mortality in Brazil from 1979 to 2004 have increased 24.73 % to 18.60 % in men and women (Journal of Oncology, 2002), a concern that is reflected in the production of preventive actions to neoplasms. Thus, one objective of this study is to establish a mapping between the branch of industrial activity in the State of Paraná and occupational cancer, though, considering the multifactorial disease. At the same time, that this survey is being conducted, we are developing an action directed at two thousand people, contributing to reduce morbidity and mortality from cancer as well, "resignify it" disease as "synonymous with death" for a treatable with survival rates and quality of life. The focus of this project is the primary and secondary prevention, especially the secondary, and such action involves simple tests that target specific population groups to identify precancerous lesions or early stage cancer in individuals with asymptomatic disease and may be modified in the medium and long term, for example, cancer of the cervix and breast. The data for the development of the research were collected and published by the Ministry of Health of Paraná, that these data will be compared with the design of map production in Parana, and the services data Gaertner Hospital and University Hospital of Curitiba -Paraná/Brazil, high-complexity cancer in the state of Parana to the development of prevention and clarification.

PP-522

Commitment Of The Right Of Health In The Light Of Food Security

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Future demand for food will be driven by population growth and rising incomes; the latter increase the demand for meat, vegetables, fruits, and grains (for animal feed). In the future, agricultural growth must come primarily from rising biological yields rather than from expanding cultivated areas or intensifying agriculture through irrigation, because fertile land and water are becoming increasingly scarce. Concern with food security can be traced back to the world food crisis of 1972–74 - and beyond that at least to the Universal Declaration of Human Rights in 1948, which recognized the right to food as a core element of an adequate level of living.

PP-523

The study of Abortion Licenses Being Issued by Legal Medicine office of Kerman in 2005

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legal medicine organization

Introduction: Our great leader Italic allowing abortion in the case of fetal disorders created fundamental change in authorized therapeutic abortion. the aim of this study was to study therapeutic abortion license being issued by Kerman legal medicine office in 2005 and comparing them with last years, issued licences in order to increase the medical team information about the indications of therapeutic abortion and its appropriate time.

Method: This is non intervention and periodical study and the sample group was pregnant women referring to legal medicine office in 2005 in order to get the abortion licence. All relevant data were recorded in a questionairs and analyzed by SPSS software.

Results: Therapeutic abortion licence has been given to 24 out of 47 who has been referred during one year from 24 issued lincences, 68 % has been issued due to fetus diseases or abnormalities and 32 % has been issued because of mothers illnesses. The most important fetus problem was major β–thalasemia and the main problem in mothers was cardiovascular disease. Mean age of mothers at the time of abortion was 29 years and that of fetus was 17 weeks.

Conclusion: Increase in the rate of therapeutic abortions can decrease the rate of illegal abortions and this in turn increases the pregnant women health. Therefore, women health can be improved by increasing medical team information about the circumstances under which therapeutic abortion is permissible and its rules as well as criminal abortion punishments.Moreover, it can reduce the gynecologists problems in this regard. Journal of kerman University of Medical Sciences,2007;14(2): 147–152

PP-524

Human rights, Dignity and elderly people

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Introduction: In global bioethics discourse to preliminary remarks on human dignity and human rights.These concepts are directly depending on context and culture.Dignity is not a new idea. Philosophically it can be traced at least as far back as the writings of Aristotle. It has an established place in human rights discourse.The first statement in the preamble to the 1948 Universal Declaration of Human Rights refers to "recognition of the inherent dignity and of the equal and inalienable rights of all members of the human family".Today,Older people are extensive population that are increasing.Good life situation,increasing health care, life expectancy and enhance the hope cause to created older age and geriatric course.In recently century older people is a important socio economic challenges.

Nurses and other health care professionals are frequently exhorted to respect the dignity of patients and clients. Respect for dignity appears as a central value within nursing codes.But there are not clarify the meaning of dignity for nurse in practice.The purpose of this article are:what dose dignity mean in older people? what dose dignity mean in Iranian older people? And how might dignity be operational in the care of older people?

Method and Material: This article is a systematic reviews the theoretical and empirical literature relating to dignity and clarifies the meaning and implications of dignity in relation to the care of older people.the following databases were searched: CINAHL & Humanities, philosophy Literature,Medline.An analytical approach was adapt from 2000 to 2012.on the other hands researchers have interviewed with Iranian older people and was down analytical data in qualitative approach by content analysis.

Results and conclusion: Meaning of dignity in older people is complex concept and depending the culture,environment,personal autonomy,economic situation and control over Ono's life. literature ' views of dignified care shared the themes of autonomy and maintenance of identity and also included:a holistic and person-centered approach, participation, communication and respect. We argue that what is required is to provide sufficient support and education to help nurses understand dignity and adequate resources to operationalise dignity in their everday practice.

PP-525

The suicide in prison: the experiences of the last five years in our department

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In the Italian context the problem of suicide in prison is increasingly important. Many causes can be recognized through the actions that lead to death the prisoners. These can be recognized mainly in the overcrowded prisons and, on the other hand, in the disproportion between the number of prison guards and the number of detainees. Over the years, this two issues have resulted in a steady increase in suicides in the prison population.

The ratio between the actual number of italian prisoners and the expected actual capacity of our national prisons has reached a total of 144/100. This implies that the 44 % of current detainees are in excess compared to the number provided by the law.

This causes an inadequate quality life, determined by the sharing of tight spaces and the insufficient number of prison officers with the onset of tensions, protests, fights between prisoners and, sometimes, suicides.

Although in prison regime the Italian average of suicides is broadly in line with the European Union (11.1 cases per 10,000 prisoners, against an EU average of 12.4), data is still alarming, resulting in an increase compared to the past.

According to the Permanent Observatory on Deaths in prison, in 2011, the deaths for suicide were only 66, with an overwhelming predominance of men (64) on women, and a predominance of Italians (45) than foreigners (21).

In the current work we present some cases of prisoners suicide occurred in the last 5 years. These suicides were in line with national trends, in particular, in addition to the total dominance of the male sex, the method most commonly used was mainly the asphyxia by hanging (suffocation is rarer), also in view of the difficulty in prosecuting death through other methodologies under detention (poisoning, firearms, etc.).

PP-526

Re-write re-Union rights. Is DNA test really essential for making possible minor children settling closer to their parents?

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This paper presents an analysis of legislation about family reunion in European Community countries, peculiarly in Italy. Through family reunion, other members of an extra-community family (applicants), are allowed to get together to their relatives already settled (sponsors) in the Community Country, who ask for their rejoining.

In 1999 during Tampere's meeting of the EC, it has been established the importance of assuring a firmer integration of persons already settled in member Countries. In 2002 the European Council (EC) has instituted the first rules on immigration fluxes. Afterward a further directive (2003/86/CE) has been issued specifically for rights in family reunion. Minor children (natural or adopted), civil or unmarried partners, dependent ascendants or elderly dependent descendants, may join to the family member already settled in community country. The origin country releases all documents attesting the blood ties with sponsor. The 5th article of such directive, quotes precisely:"If appropriate… Member States may … conduct other investigations that are found to be necessary".

In cases involving children, therefore, where proof of the existence of the relationship between the child and the sponsor cannot be satisfactorily established, only DNA test will resolve conclusively the issue.

In Italy the Migration Agency, founded in 1951, has first requested DNA testing in 2001 to all applicants whose documents have been classified as untenable. First this proceeder has been applied to Somalian citizens lacking of their personal civil registration. Next in 2005, this practice has been extended to all other uncertain applies. The DNA test is completely financed by sponsors, in order to solve unreliable applications and, on the other hand, to deter false reunion requests.

In 2008 Italy has thoroughly improved its legislation about re-union, by dint of Legislative Decree n. 160, which has besides arranged immigration policy.

During the past 3 years, a lot of tests have been performed, but it has even came to light an inevitable question: what if minor applicant turn out to be not sponsor's natural child but just legal one? Is it ethical and justifiable making the sponsor-parent aware of his only sole civil fatherhood, during the reunion's application? Overall, we must figure out the consequences of this finding, involving minor children who have lived for many years with their legal non-natural parent.

Finally we'll try to discuss this human rights ' knot, by means of our forensic experience and laws' analysis.

PP-527

In Italy the existential prejudices are again eligible for compensation as a non-pecuniary damage? the sentence no. 2228/2012

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The traditional Italian legal system recognized only three items of personal damage: damage to health or biological injury, material damage and financial loss. Alongside these three items of damage, over the years the courts have identified a fourth entry, the existential damage: damage resulting from the injury forced the performance of non-profitable, being a source for the injured, but not caused by an impairment of physical or mental integrity. However, the subsequent judgments of the Supreme Court has changed its focus nullifying the recognition of the existential damage, until the judgment 2228/2012 which reinstated the existential damage. Our purpose is to analyze the path that led to the genesis of case law, the cancellation and the readmission of existential damage in damages to the person

PP-528

The gaps in the health care system for inmates in Greek correctional facilities

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Background: It is evident that an inmate does have the right to have access to health services. It is also clear that an inmate is not free to go to the doctor or the hospital of his choice as a person of the general population can. The health services inside Greek prisons are regulated by a system that is quite old. The purpose of this study is to evaluate the results of this situation and propose possible measures to be taken under consideration by the Hellenic Ministry of Justice.
Methods: A retrospective study was performed, after obtaining special permission from the Hellenic Ministry of Justice, that granted access to the records of major Greek correctional facilities. Data was also collected from the Piraeus Forensic Service and the Department of Forensic Medicine & Toxicology of the Medical Faculty of the University of Athens. Full statistical analysis was performed.
Results: Most Greek correctional facilities do not have "in-house" medical practitioners and require the assistance from on-physicians who do not examine the inmates on a regular basis. There is only one hospital for inmates (Agios Pavlos) in the whole country, which is situated in the broad Athens area. Prisoners who require specific medical examinations (CT-scans, MRI-scans, etc) need to transfer to this hospital, from which they are referred to public hospital for appointment. Subsequently they are taken to their prison just to wait to be transferred back to the prison hospital Agios Pavlos when the time of their appointment comes. Due to the above mentioned bureaucratic situation, a lot of inmates do not have immediate access to health services with very bad results on their health status.
Conclusions: A new system in the provision of health services within Greek correctional facilities needs to be adopted, allowing access of inmates to local public hospitals, situated near their home prison.

PP-529

Forensic investigation of deaths inside Greek correctional facilities

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Background: By current legislation, forensic investigation of the death of an inmate is obligatory in all cases. The purpose of this study is to evaluate the results of this examination and propose possible measures to be taken under consideration by the Hellenic Ministry of Justice.
Methods: A retrospective study was performed, after obtaining special permission from the Hellenic Ministry of Justice, that granted access to the records of major Greek correctional facilities. Data was also collected from the Piraeus Forensic Service and the Department of Forensic Medicine & Toxicology of the Medical Faculty of the University of Athens. Full statistical analysis was performed.
Results: The exact place where the corpse of the deceased was discovered was noted (cell, toilet, etc). The time and the day of the week was noted for detection of any possible pattern. The detailed data from the autopsy was collected and compared to the findings of the histopathological and toxicological investigation. The death scene investigation was not performed in any case at all.
Conclusions: Histopathological and toxicological investigation prove to be of grave significance in the forensic investigation as a whole. Death scene investigation should be performed in all cases.

PP-530

Self harm incidence in a Greek prison

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Background: Self-harm among prisoners is a common phenomenon. This study aims to estimate the prevalence of self-injurious behavior (SIB) among Greek male prisoners, record their motives and determine independent risk factors.
Methods: A self-administered, anonymous questionnaire was administered to 173 male prisoners in the Chalkida prison, Greece. The questionnaire included items on self-harm/SIB, demographic parameters, childhood history, family history, physical and mental disease, lifestyle and smoking habits, alcohol dependence (CAGE questionnaire), illicit substance use, aggression (Buss–Perry Aggression Questionnaire [BPAQ] and Lifetime History of Aggression [LTHA]), impulsivity (Barrat Impulsivity Scale-11) and suicidal ideation (Spectrum of Suicidal Behavior Scale). Univariate nonparametric statistics and multivariate ordinal logistic regression were performed.
Results: Of all the participants, 49.4 % (95 % CI: 41.5–57.3 %) disclosed self-harm (direct or indirect). The prevalence of SIB was equal to 34.8 % (95 % CI: 27.5–42.6 %). Most frequently, SIB coexisted with indirect self-harm (80.7 %). The most common underlying motives were to obtain emotional release (31.6 %) and to release anger (21.1 %). At the univariate analysis, SIB was positively associated with a host of closely related factors: low education, physical/sexual abuse in childhood, parental neglect, parental divorce, alcoholism in family, psychiatric condition in family, recidivism, age, sentence already served, impulsivity, aggression, alcohol dependence, self-reported diagnosed psychiatric condition and illicit substance use. Childhood variables were particularly associated with the presence of diagnosed psychiatric condition. At the multivariate analysis, however, only three parameters were proven independent risk factors: self-reported diagnosed psychiatric condition, illicit substance use and aggression (BPAQ scale).
Conclusion: The prevalence of SIB is particularly high. Psychiatric condition, illicit substance use and aggression seem to be the most meaningful risk factors; childhood events seem only to act indirectly.

PP-531

Smoking habits of inmates in a Greek prison

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Background: Smoking has long been considered part of prison culture and studies have shown a high prevalence of smoking within correctional facilities.
Methods: A self-administered, anonymous questionnaire was administered to 173 male prisoners in the Chalkida prison, Greece. To assess current smoking habits, a hierarchical approach was adopted. The underlying conceptual framework included: (i) demographic parameters, (ii) adverse childhood history (physical abuse, parental neglect, parental divorce, alcoholism in the family, sexual abuse and psychiatric condition in the family), (iii) education, personality traits, such as impulsivity (Barrat Impulsivity Scale-11), aggression (Buss- Perry Aggression Questionnaire and Lifetime History of Aggression), and personal history of mental disease, (iv) prison-related features (duration of sentence, sentence already served and change in smoking habits during imprisonment).

Results: Eighty percentage of the study sample reported current smoking; 43.4 % disclosed deterioration in their smoking habits during imprisonment. The hierarchical approach pointed to: (i) adverse childhood events, i.e. alcoholism in the family [adjusted odds ratio (OR)= 6.29, 95 % confidence interval (CI): 2.44–16.25], psychiatric condition in the family (adjusted OR=4.10, 95 % CI: 1.31–12.84), physical abuse (adjusted OR=2.90, 95 % CI: 1.30–6.46), parental neglect (adjusted OR=2.66, 95 % CI: 1.19–5.95), parental divorce (adjusted OR=2.14, 95 % CI: 1.00–4.56), and (ii) impulsivity (adjusted OR= 2.26, 95 % CI: 1.12–4.58) as independent risk factors. In addition, deterioration of smoking habits during imprisonment exerted an effect of borderline significance (adjusted OR=2.02, 95 % CI: 0.97–4.24).
Conclusions: Heavy smoking in prison principally integrates two components: unfavourable childhood and current personality traits (impulsivity).

INFORMATION TECHNOLOGY

PP-532

The Importance of Creating a Byte-to-byte Copy (Imaging) at Computer Forensics Investigations- Case Report

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Background: All the analyses and investigations in computer forensics are carried out by byte-to-byte copying of the digital evdences which means copying all the data on the evidence. At this stage special softwares and hardwares are used not to ruin the evidence. Closed source softwares mostly operating on the Windows operating systems are commonly used in computer forensics laboratories. But open source copying softwares mostly written for Linux operating systems can also be used at this stage. Some open source softwares can run on Windows operating systems, as well. This research has been done to observe whether open source softwares are as successful as the closed ones in byte-to-byte copying process.
Method: A byte-to-byte copy of a USB thumb drive with 3,8 GB capacity was created both with FTK Imager and Guymager programme of which the first has a closed source and the second has an open source.
Results: It was observed that Guymager is more successfull than FTK Imager software in CPU usage, copy time and avarage copy speed. The same hash value results were obtained with both softwares.
Conclusion: In the research, it was concluded that Guymager, an open source software, is more successfull than FTK Imager which is a closed source software. However, obtaining more solid results, need more researches to be carried out.

PP-533

Improving Off-Line Arabic Signature Verification Based on Digital Evidence for Forensic Medicine

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Digital evidence for automatic handwritten signature verification is playing an important biometric role in forensic medicine's society; since it helps questioned examiner in taking their decision regarding the authenticity of an official documents such as cheques, certificates, contracts, legal and historical documents. However, there exist many challenges in signature verification; first at all, genuine signatures are of some uncertainty that results in some difficulties in decision making. Secondly, signature's features of different writers become conflict, variable and uncertain. Finally, a skilled forgery has almost the same shape compared to the genuine signature, therefore is more difficult to detect. Unlike other languages, Arabic has unique features; it contains diacritics, ligatures and overlapping. Because of lacking any form of dynamic information during the Arabic signature's writing process, it will be more difficult to obtain higher verification accuracy. This paper addresses the above difficulties by introducing a novel off-line Arabic signature verification algorithm inspired by recent advances in information technology by which fuzzy modeling integrated with the combined technique of feature extraction is proposed. The key point is using multiple features to capture different aspects of signature individually in order to improve the verification accuracy. Different from state-of-the-art works that adopts the fuzzy set to describe the properties of the extracted features to handle signature's uncertainty, this work also employs the fuzzy variables to describe the similarity degree of the of the signature's features to deal with the ambiguity of questioned examiner judgment of signature similarity. Experiments were conducted to show the effectiveness of the proposed system. It is concluded from the experimental results that the verification system performs well and has the ability to reduce both of False Acceptance Rate (FAR) and False Rejection Rate (FAR)

PP-534

A novel method for improving the credit card fraud detection

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As a result of the rise and rapid increase of E-Commerce, use of credit cards for online purchases has dramatically increased and it caused an explosion in the credit card fraud which results in loss of billions of dollars worldwide each year.

In this paper we identify the different types of credit card fraud and discuss different techniques to detect them focusing on advantages and disadvantages for every method. The techniques are compared in terms of their performances. To improve the fraud detection system, we combine two methods to achieve more accurate problem detector.

The fraud is detected, the false alert is minimized and it produces an optimized result.
Experimental results are given to verify the effectiveness of the proposed model.

INNOVATION

PP-535

Ionic liquids applied to forensic sciences: a solvent free decontamination process of human hair documenting drug exposure

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The research of abuse drugs in human hair has been acquiring great relevance in the field of forensic toxicology.

A new solvent free method to decontaminate human hair for abuse drugs research was studied, with special focus on opiate drugs, namely codeine, morphine and 6-monoacetylmorphine (6-MAM) (great importance in post-mortem drugs investigation). Several pure ionic liquids (ILs), mixtures and polyethylene glycols were tested. The testing took place at 100°C for 96 h. Although there is no physical contact between the liquid and the hair sample, the liquids trihexyl (tetradecyl)phosphonium dicyanamide ([P(66614)][DCA]), 1-ethanol-3-methylimidazolium tetrafluoroborate ([C2OHMIM][BF4]), 1-ethoxymethyl-3-methylimidazolium triflate ([C3OMIM][OTf]), 1-ethoxymethyl-3-methylimidazolium chloride ([C3MIM][Cl]), 1-benzyl-3-methylimidazolium bis(trifluoromethanosulfonyl)imide ([BzMIM][NTf2]), 1-methyl-3-octhylimidazolium tosylate ([OMIM][TSA]), bis(dimethyl)dihepthylguanidinium iodide ([TMGC7][I]) and phenyltrimethylamonium triflate ([PhTEA][OTf]) showed extraction efficiencies above 80 % for the three opiate substances studied. The ionic liquid [TMGC7][I] was used in a real positive sample in order to evaluate if this process also removes drug from the inside of the hair matrix. The results showed that a small amount of the internally deposited drug is effectively extracted and this is more significant for 6-MAM. Nevertheless, additional experiments using a higher number of samples are needed in order to obtain more accurate data on this phenomenon. It was also evaluated if this process induced any morphological changes in the hair surface, and no such changes were observed.

From the results of this study, it can be concluded that the developed process has removed efficiently the external contamination of hair samples, being as such an environmental friendly process, efficient, economic and useful for application in routine analysis.

PP-536

A proposal for the development of the medico-legal institute

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The medico-legal institute is challenged to take a fateful decision for one of two options. The first is, to keep the bureaucratic structure with the old vertical, conventional management and day-by-day working staff with an "artificial sense of stability"(-Nadler&Thshman, 1999). The second is, to restructure the hierarchy and change the professional staff into knowledge workers. "Knowledge workers are the individuals whose work effort is centered on creating, using, and sharing knowledge"(Bennet, 2009). As a governmental organization, the vertical hierarchy could modify and not totally discarded, with practice that is more flexible, lateral coordination communication and cross-functional teams. Flexibility, as it might face some resistance, could approach within the modified vertical structure. "Flexibility does not necessary to be the opposite of structure, but it might make the process of organization with the concept of the network and independent access to information and decision making"(Toffler, 1995, own translation).

This century demands, yet obliges, for a rapid and efficient responsive organization. Indeed, imposes for a knowledge worker who is highly qualified, innovative and can work autonomously plus in a teamwork. Though globalization is well recognized as a market phenomenon, it is not so far to find such a specific service that is offered by the unique medico-legal institute faces the question of quality trust from the society or the concerned authorities. It is also, not so far, for that service to privatize, replaced by the universities or even shared by foreign experts with the increasing tendency for countries to remove barriers in a marathon pace. "To deal with the global competition, employees have to be able to keep up with knowledge and new ideas to stay in the race"(Wilpert, 2008).

To change the staff into knowledge workers, the organization should adopt research work & development of the human capital, activate the partnership with the universities, locally plus globally, and motivate "different innovation streams"(Nadler&Thshman, 1999). Only organizations with clear vision for the future, that encourage innovation and codify the concept of knowledge workers, will survive in the 21st century competition. "The education level of employees quantifies their quality and skills, and often used to measure firm`s human capital"(Harison&koski, 2010). The holly bureaucracy, now is replaced by the globalization's paradise or hell.

PP-537

Wound Pattern Simulations on Mobile Devices - Augmented Reality Enhanced Experiences for Medical Students

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Over the last years, the use of eLearning content has become an essential part of medical education, thereby improving the success of teaching and learning. By using current, almost omnipresent technologies such as smartphones or other mobile devices that are widespread among students, it is possible to firmly integrate mobile learning into daily life and to better attract the interest of participating students. Of course, special care must be taken regarding the design of applications used for this purpose. Following these demands, mARble®, an augmented reality powered learning environment for mobile was developed. The use of augmented reality technologies has the potential to significantly enhance the learning experience by adding new levels of experience; instead of simply consuming what is being presented, students can better immerse themselves in the content, thus making them a part of the learning object.

mARble's® target clientele are students participating in a forensic medicine course. For this purpose, participants are equipped with smartphones with a preinstalled copy of the application. They can then practice the detection of wound patterns in real-time by placing an appropriate marker on their own skin, pointing the mobile phone towards this marker and evaluating the overlaid image.

Additional content, e.g. practice questions and tasks as well as additional information for the provided wound patterns is also available in textual form as well as in audio and video clips or pictures. The main objective of mARble® is to elicit synergy learning effects by getting students to interact in a role-playing setting and capturing their attention, thus creating a demanding but also fascinating learning environment.

Further studies are currently under way to measure the influence these additional experiences have on the individual learning process. An evaluation of the user experience will also be part of this study since it is an important factor in the design of attractive products (Hassenzahl, 2010) and thus also contributes to the individual learning process.

Reference:

Hassenzahl, M (2010): Experience Design: Technology for All the Right Reasons

PP-538

Pharmacogenomic and pharmacogenetic. Which is the reality looking toward the future

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The importance of a personalized scheme therapy is an emerging possibility today thanks to a "new" cooperation between genetics, proteomic and pharmaceutical science.
Each person is a unique system and sometimes a pharmaceutical product can be successfull for a person but not for another. Physicians today are tring to build personal prevention scheme therapy because most of the main pathologies have benn decoded from the genetical point of view and it is possible to know the position and the name of the genes that regulate the illness. Starting from this point it is possible to create a specific and individual therapy for eachother. This is a reality for the moment in oncology but also for some common pathologies has diabete and cardiovascular diseases for instance. The authors would like to explain what is the scientific reality and also the main consequences from the legal point of view.

PP-539

Medico legal implications in tissue transplantation using staminal cells. The italian reality

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Stem cells represent a new approach in many different medical branches. They give great opportunities but sometimes there are also legal implications about patient reactions, quality of the treatment, scientific control or institution of tissue banks. The authors would like to explain the results of an epidemiological – stathistical study that has been done in cooperation with the Department of Orthopaedic and Traumatology of a Hospital in the center of Italy showing hte cases and the results that they have achieved using stem cells in patients treated with stem cells for traumatic pathologies or when in case of prosthesic implants there was the necessity of new tissue.

PP-540

Medical tourism: social and legal aspects of a new "healthy" approach

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Health is the most important aspect of their lije. Aorund the world, especially in the U.S.A., Mexico, Canada, India, Thailandia, Romania and other countris the possibility to go in those countries to be operated in prestigious hospitals and clinics to solve medical problems as in ginecology or orthopaedics, dentistry with low costs or with the possibility to choose is a reality.

This is because there is the possibility to find very good services spendig almost 1/5 less the the usual costs in the own country. For instance a prostesic substictution of the knee in the U.S.A can costs 10.000,00 €, the same in India can be done for 3.500,00 € and the quality of assistance, material and operators is the same.

But which are the social aspects of this new reality, the costs and the market that is behind this new business?

The authors will try to give an explanation at this important phenomenon.

INTERNATIONAL NETWORK FOR FORENSIC RESEARCH

PP-541

Genetic Analysis of The Libyan Population Living in Benghazi

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Allele frequencies of 15 autosomal short tandem repeats (STRs) and 17 Y-STR loci included in the AmpFℓSTR®Identifiler and AmpFℓSTR® Yfiler™ PCR amplification kits were used to type a sample population of (230 for autosomal and 238 males for Y Haplotypes) Libyan subjects living in Benghazi with informed consent. Statistical parameters of forensic importance of 230 autosomal STRs including, the power of discrimination (PD), observed homo and heterozygosity values, polymorphism information content (PIC), probability of match (PM), power of exclusion (PE) and typical paternity index (TPI) were calculated for the loci (460 chromosomes). Markers FGA, D18S51 and D3S1358 had the highest power of discrimination (PD) values while TPOX was the least informative marker, the combined power of discrimination (PD) for the 15 tested STR loci was more than 0, 9999999. The combined MP value was 1 in 7.23211×10-18. The Benghazi population was compared with those of other populations at local, regional and global levels. These parameters indicated the usefulness of the loci in paternity testing, personal identification and biohistory studies in the Benghazi population. Of 238 observed Y haplotypes, 214 were unique (90 %) and 24 (10 %) were found more than once. The 17 loci gave a discriminating power of 0.999. DYS458 showed the highest diversity as a single-locus marker (0.73). Allelic frequencies and gene diversities for each Y-STR locus were determined. The high haplotype diversity and discrimination capacity (0.996) demonstrated the utility of these loci for human identification in forensic applications. Comparative analysis with Y-STR datasets of relevant populations and submission of the haplotypes to the Y-STR Haplotype Reference Database (YHRD) was undertaken. We reported in addition phenotypic phenomenon which useful in forensic context

PP-542

Genetic variations of 15 autosomal strs loci in an immigrant population in UK (British Pakistanis) and its comparison with the origion population (Pakistani)

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Background: This study uses the technique of DNA Profiling to estimate the frequencies of highly polymorphic alleles. DNA STR Profiling is used to form the DNA databases of Populations all over the world for identification of humans in forensic investigations. Short Tandem Repeats (STR) are the basic small sequences of DNA which provide the information in the form of a DNA profile which is unique for each individual except identical twins. British Pakistanis is an immigrant population inhibiting major cities of UK, having their origin from Pakistan. According to the 2010 census, their population is nearly 1.2 million and they have adopted the life and culture of the UK.

This population is unique among other immigrant populations that they usually restrict marriages to their own close families. Therefore, there is limited genetic diversity due to mixing of alleles within close relatives. Hence, there is high rate of consanguinity in the population that has resulted in the highest rate of autosomal diseases as compared to any other immigrant population in the UK. Furthermore, the vast majority of this population belong to particular areas of origin in Pakistan and live in specific areas in the UK such as Bradford, Birmingham, Manchester, East London etc.

Method: The sample collection was done both by buccal swabs and by FTA blood cards. DNA was extracted by using the QIAGEN DNA Extraction Kit Protocols. After quantification, the DNA was amplified by using the AmpFlSTR Identifiler Kit by Applied Biosystems, and analysed the 15 loci on ABI 310 Genetic Analyzer. GeneMarker HID and Powerstat soft wares were used for data interpretation. GENPOP and Arlequin P values were calculated for HWE equation.

Results: The successful DNA profiling of 240 samples has shown presence of although similar pattern of alleles generally but there are existed some minute difference on certain Loci. Genotype on each locus was in agreement with Hardy- Weinberg equation on 15 STRs in both populations after Bonferoni correction. Loci FGA, D2S1338 and D8S1179 had maximum power of discrimination & exclusion in British Pakistanis s while loci TPOX, D19S433 & FGA in origin Pakistani population.

Conclusions: The immigration has not affected the Allelic frequencies more extensively but still minute differences observed in certain loci. The UK Pakistanis followed specific pattern of migration in geographical distribution and tried to maintain selective inbreeding. Increased rate of homozygosity in British Pakistanis proved more consanguinity as compared to current Pakistani Population.

PP-543

Genetic Portrait of 12 X-STR Loci in Cabo Verde Immigrant Population Living in Lisboa

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Typing X-chromosome markers (ChrX) is important to complement the analysis of Y and autosomal (AS) short tandem repeats (STR). The main field of the X-chromosome markers is kinship investigations, especially investigations of mother/son, father/daughter and complex kinship tests. When the alleged father is not present, the X-chromosome investigation is more accurate because the power of exclusion of X-chromosome STR (X-STR) in these cases is higher. It´s very helpful to establish the relationship between distant relatives and it´s also a very useful tool to relate families in unusual situations like war context, mass disasters and migrations. In the criminal field, the X-chromosome markers are important to identify the contribution of feminine traces in male aggressors or victims.

Before forensic application, it´s important to study population data and to construct reference databases to document the genetic variation of these specific STR among worldwide populations. X-STR genetic population data still limited, and population data is vital to quantify the evidentiary value of a match in forensic evaluation. Available data such as allelic distribution, null allele frequencies, mutation rates and analysis of linkage, which supports the application of these markers in the forensic field, is increasing.

As well as it occurs all over Europe, in Portugal, and particularly in Lisboa, immigrant populations are increasing. In a population study carried out by the Instituto Nacional de Medicina Legal e Ciências Forenses, I.P., involving healthy and unrelated native males of Cabo Verde, living in Lisboa, allele frequencies and combined power of discrimination were established for the twelve-X-linked STR multiplex system (DXS10103, DXS8378, DXS7132, DXS10134, DXS10074, DXS10101, DXS10135, DXS7423, DXS10146, DXS10079, HPRTB, DXS10148) introduced by Investigator Argus X-12 (Qiagen).

Our preliminary results show that no shared haplotypes were found. Polymorphism information content (PIC) ranged from 0,540 (DXS10103) to 0,940 (DXS10135). Power of discrimination (PD) value is higher for ChrX markers than AS markers. Overall values for PD were high, ranging from 0,585 (DXS10103) to 0,939 (DXS10135). The combined PDs for the twelve loci were 0.9999999. In our study, DXS10135 is the most polymorphic marker and DXS10103 is the marker that presents less diversity.

PP-544

PCR Application in Identification Of Saliva samples Exposed to Different Conditions (streptococci detection based)

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Background: Oral streptococci represent about 20 % of the total oral bacteria, so if it is possible to detect the presence of oral-specific bacteria by PCR from a forensic specimen, this could be used to verify the presence of saliva.

Aim of the work: detection of Streptococcus salivarius which is one of the most common streptococci in oral bacteria, streptococcus mutans which is common in cases of dental caries and to screen which of them is more reliable in saliva identification.

Materials-methods: control samples were taken from body fluids: urine, semen, skin swab, fresh saliva and saliva stain (licked filter paper), 5 samples each one. 20 samples cotton fabrics contaminated with saliva, 20 samples cigarette butts, 20 samples bitten apple and 15 samples semen mixed with saliva. DNAextraction was done using DNeasy ® blood and tissue kit(qiagen). PCR was done for DNA amplification using PCR master mix then gel electrophoresis was done for samples qualification.Control bacterial was streptococcus salivarius which was identified using API test and streptococcus mutans ATCC 25175 which was purchased from (Cairo MIRCEN, faculty of agriculture, ASU).

Results and conclusion: streptococcus salivarius was detected in 83, 5%of saliva samples and s.mutans was detected in 67 % of saliva samples. Both bacteria not detected in other body fluids, so s. salivarius is more reliable in saliva identification from other body fluids. Recommendations:PCR is valuable in detection of saliva by detecting s. salivarius.

INTOXICATIONS

PP-545

Determination of carbamyle phosphate synthetase-1, glutamine synthetase and arginase enzyme activities as markers of acetaminophen hepatotoxcicity in rats

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This study was to detect the role of hepatic carbamyl phosphate synthetase −1(CPS-1),HEPATIC GLUTAMINE SYNTHETASE AND SERUM Arginase enzyme activities in acetaminophen induced hepatotoxicity.Also to evaluate to which extent these enzyme activities were modified by giving various therapeutic regimens as a treatment for acetaminophen toxicity.

This study was carried out on 50 adult male albino rats divided into equal 5 groups;GROUP1;Received gum and served as a control group.-Group2;received a single oral hepatotoxic dose of acetaminophen (600 mg).Group 3;received 600 mg/kg acetaminophen followed by N-acetyl cysteine(NAC)(150 mg/kg) orally after 1 hour.Group 4;pretreated with zinc sulphate(20 mg/kg) orally for 7 days followed by acetaminophen and NAC in the same above-mentioned doses.Group5;pretreated with sodium selenite(100 mg/kg)orally for 7 days followed by acetaminophen and NAC.

It was found that acetaminophen produced a significant inhiibition of hepatic CPS-1 and glutamine synthetase and a significant increase in arginase,plasma alanine aminotransferase (ALT) and ammonia as compared to the control group.There was a significant increase in hepatic CPS-1 and glutamine synthetase activities and a significant lowering of serum arginase activity,plasmaALT and ammonia levels in the three treated groups as compared to the acetaminophen group.Moreover, there was a significant change in the glutamine synthetase activity between the three treated groups,while the other studied parameters showed statistically no significant changes.

From the above study it is suggested that acetaminophen toxicity could significantly affect hepatic CPS-1,glutamine synthetase and serum arginase.These parameters could be useful as indicators for acetaminophen hepatotoxicity and for evaluation of different types of treatment.The use of NAC and antioxidants combinations especially sodium selenite with NAC could be a better alternative treatment.

PP-546

Evaluation of Titanium Toxicity on Liver, Spleen, Lung and Kidney: An Experimental Study

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Different metals are increasingly being used to manufacture implants, especially in the field of dentistry. Metallic implants of titanium are used therapeutically in biomedicine because of its high corrosion resistance and excellent biocompatibility when compared to more conventional stainless steels and cobalt-based alloys. However, no metal or alloy is completely inert. Clinical reports have implicated the biological response to release metal as a cause of failure.

Thus the aim of the present study was to determine the presence of titanium particles in the target organs of the TiO2 injected rats, and to study its histopathological effects on these organs. Samples of liver, spleen, kidney, and lung were processed for histological examination. Cryostat sections of spleen from the 2 groups were stained with common lymphocytic antigen (CLA) for lymphocytic detection.

The histological analysis of organs revealed the presence of titanium in the parenchyma of liver and spleen of the affected group with associated tissue damage. The CLA staining of the spleen in the affected group revealed toxic alteration within the spleen, indicating that the immune system may be hampered and so interfering in the body defense mechanism.

PP-547

Effect of intermittent fasting on heavy metals detoxification

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Detoxification is a process of eliminating or neutralizing the toxins from the bodies through the colon, liver, kidneys, lungs, lymph nodes, and skin. Fasting is expected to precipitates this process because, when food no longer enters the body, the latter has a greater chance to cleanse itself of toxins. The aim of this study was to determine the effect of fasting on heavy metals detoxification. Forty healthy male volunteers aged 25–58 years, who fasted during Ramadan, participated in this study. Blood sampling was conducted 2 days before Ramadan and on 14th and 28th day of Ramadan. Also, scalp hair samples were collected at end of Ramadan and were divided into distal segments and proximal segments of 5–15 mm. There was significant decrease in mercury, chromium, aluminum, manganese and cobalt blood levels after fasting 14 days and 28 days, significant reduction in blood lead level after fasting 28 days. There was insignificant reduction in cadmium and copper blood levels after fasting. Concerning trace elements, there was significant decrease in blood zinc level after fasting 28 days and insignificant reduction in selenium blood level after fasting. Analysis of heavy metals in hair revealed significant decrease in lead, cadmium, mercury, aluminum and manganese levels between proximal and distal parts of hair. The same finding was reported for, zinc and selenium levels. There was a statistically significant correlation between lead, aluminum and selenium levels on blood and hair. Further research on effect of fasting on patients with high toxic metal level and those under chelating therapy is recommend.

PP-548

Death Following Ingestion of Glyphosate: A Case Report

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Introduction: Glyphosate is an important agricultural chemical from the toxicological viewpoint. Glyphosate is a broad-spectrum, nonselective, systemic herbicide used for control of annual and perennial plants including grasses, sedges, broad-leaved weeds, and woody plants. Severe poisoning results in intestinal hemorrhage and ulceration, acid base disturbances, renal failure, hypotension, cardiac arrest, pulmonary dysfunction, convulsions, coma, and death.
Method: We report a case of suicide poisoning by«glyphosate»in a 36-year-old farmer with no significant medical history but who has an emotional stress because of financial difficulties that had lasted for one month before death.
We will also conduct a review of the literature regarding glyphosate poisoning.

Result: We carried in the Department of forensic medicine an autopsy of a 36 year old man who was brought to the emergency department the day before by his family. The initial review emergency had found a patient in coma (GCS=3) with multiorgan failure cardiac, pulmonary and renal. The death occurred quickly, two hours after admission.

During the external examination of the body, we have found no traumatic injury. However it showed the presence of blood flow through the mouth.

At autopsy, we were impressed by the importance of the haemorrhagic syndrome in gastric and intestinal walls, which were even perforated in some areas. Since these manifestations are nonspecific, the toxicological analysis of blood and urine has established the diagnosis by demonstrating the presence of glyphosate at a rate of 4 mg / l.

Conclusion: Although glyphosate itself is relatively harmless, its chemical formulations have been used successfully for committing suicide. This is because glyphosate invariably is formulated in a surfactant (polyethoxylated tallow amine), which is quite toxic. Despite a significant mortality, intoxication to herbicides containing glyphosate remains poorly known.

PP-549

Accidental Death Due to the Intentionally Usage of Organophosphate: Case Report

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The use of organophosphates (OP) in agriculture as insecticides is widespread all over the world. Except for this purpose, it is known that OP have been using against pediculosis capitis in human. We report unusual causes of organophosphate poisoning. A 7 years old child and her mother were admitted to the emergency unit due to poisoning after exposure from emulsion of OP that was used for the treatment of head lice. The daughter who was poisoned by the way of inhalation and direct contact brought to the emergency unit with cardiac arrest. Child was revived with cardio-pulmonary resuscitation, but died at the eighteen days of the treatment in intensive care unit. The mother was bradicardic when she admitted to the emergency unit. After the primary treatment, the mother was taken to the intensive care unit. The mother was discharged after the medical treatment in the intensive care unit for 6 days. The hairs of patients were cut, clothes were removed and bodies were washed in order to avoid recontamination. This is important also for avoiding from contamination of surrounding healthcare personnel. Misuses of OP toxicities are not rare and it may be life threatening. Some of accidental poisonings are intentionally misuse for a purpose of treatment. It should be written on each box that OP should not be used for other purposes like treatment of head lice.

PP-550

A Case of Death with Butane Gas Inhalation

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Background: Butane is one of the aliphatic hydrocarbons. It is a gas that can be flammable, and easily liquefy. Deaths caused by the inhalation of butane gas may be intentional or accidental. Especially intentional butane gas inhalation is one of causes of sudden death. Butane gas inhalation can lead to asphyxia and arrhythmia and then death. Scene examination has a great importance in forensic medicine because of the materials related to inhalation can be found there.

Method: We reported a case of sudden death after a short time from inhalation of butane gas by the road. Autopsy findings, histopathology and chemical analysis results of this case were investigated.

Results: Our case was a 19 year old boy. After drinking alcohol with one of his friend in a park, they have left there together. The victim has gone to an empty field to consume alcohol again. After 5 minutes, the victim has called his friend loudly. When his friend immediately reached the victim, he saw lighter refill gas can between victim's teeth. He has noticed that his friend was still trying to inhale that lighter refiller tube. Then the victim has thrown the tube away. Unfortunately, the victim has been died not longer than half an hour.

At his autopsy all internal organ samples were seen congested. Toxicologic analyses revealed 0.2 mg/dl blood level of alcohol and butane gas in the blood by headspace gas chromatography. Immunohistochemical stains were not performed. The cause of death was reported as butane gas inhalation.

Conclusion: Deaths due to intentional inhalation of butane gas remains a significant medical condition and thus has become a rapidly growing social concern in our region.

PP-551

Young women self poisoning with massive ingestion of paracetamol (acetaminophen): autopsy and histological findings

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We report a case of a 26-year-old woman attempted suicide who ingested about 100 tablets of Defalgan® 1 g, which is composed by paracetamol (Acetaminophen). The young girl was recovered in Intensive Care Unit; the serum paracetamol level was 737 mg/l (normal value<20 mg/l). N-acetylcycteine infusion was started at admission, and the woman seemed to be better. The day after the clinical condition worsened and patient developed severe liver failure with alteration of coagulation factors (early developed in disseminated intravascular coagulation), acute renal failure, anemia, agranulocytosis and hypoxemic respiratory failure caused by pneumonia. The woman died five days after the self-poisoning because of multi-organ failure.

We report our autopsy and histological findings, which can demonstrate the characteristic cellular damages caused by paracetamol, comparing to literature review.

PP-552

High level of hippuric acid in the urine of a crude petrol lab technician

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A 36 years old technician working in a laboratory for the analysis of crude petrololium had been found with high urine level of hippuric acid. Crude petrol is a mixture of aliphatic and aromatic hydrocarbons

containing many components including toluene. Hippuric acid urine levels can be used as a biological monitor to detect toluene toxicity but there are other natural and unatural causes of of hippuric acid production. Type of food, tea, coffe, smoking could affect the levelss of hippuric acid in the urine.

PP-553

A case of death due to intoxication with propofol

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The investigation of deaths associated with drugs, taking into consideration such factors as the interaction between drugs and person's physical differences as well as postmortem finding of the drug or its metabolities and evaluation together with findings of an autopsy and crime scene investigation is important.

Employees of the medical profession are known the most common user group of propofol abuse. The majority of deaths associated with propofol may be at or below the range of therapeutic blood level of propofol. Most of cases have the story of drug dependence and use propofol with other drugs of abuse

The case is a 34-year-old male reported as where he was staying in the hotel room and found dead. In postmortem toxicological examination of blood, 21 ng/mL propofol and 2 ng / mL, fluoxetine, 160 ng / ml of theophylline pharmaceutical active substances were detected, but alcohol (such as ethyl alcohol, methyl alcohol) and ether-chloroform were not detected. Propofol, fluoxetine, and theophylline drug active agents in the urine, fluoxetine, theophylline, acepromazine drug active agents in the parts of internal organs, and theophylline and levetiracetam drug active agents in stomach contents were detected.

This study aimed to put forward the contribution of the multiple drug interactions to death in a person identified active agent of therapeutic doses of propofol and other drugs in his blood in postmortem.

PP-554

Drug related deaths in West Slovakia

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Background: Monitoring of deaths related to psychoactive substances represents a useful indicator of trends in their abuse. Besides that, this monitoring serves as one of the bases for creation of anti-drug programs and politics on national and international standard as well. The objective of the study is to present the most up-to-date complex review of all categories of deaths related to the psychoactive substances other than alcohol.
Method: The study included all those deceased who died in relation to psychoactive substances abuse in the regions of Bratislava city and Trnava city districts within a five-year period of the years 2007–2011. All the cases were autopsied by standard method completed with toxicological analyses. The results of regional analysis were compared to the data acquired from other regions of Slovakia.
Results: There were reported total 185 fatalities related to psychoactive substances. From this amount 90 cases (49 %) belong to the group of direct deaths (poisonings) and 95 cases (51 %) to the group with other cause of death. Out of the total number of cases, 80 % were related to men and 20 % to women. More than 53 % of the cases were related to the age up to 34 years. In the group of poisonings, the most frequently detected substances were medicaments in 50 %. Opioids themselves or in combination with other substances were detected in 39 %. In the group of the indirect deaths, the most frequent category of death was suicide in 43 %. The most frequently detected psychoactive substances were central nervous system stimulants in 36 % of cases. The number of cases autopsied in Bratislava represented 42 % of the total amount of deaths related to psychoactive substances reported within the years 2007–2010 in Slovakia.
Conclusion: The found numbers of psychoactive substances related deaths reflect the reality that in territory of the Slovakia capital city there is concentrated the biggest number of psychoactive substances consumers and/or abusers. Detected situation also points from professional point of view on urgent need to define conception of Slovak forensic toxicology and to finish creation of toxicological laboratories network.

PP-555

Role of aminoguanidine, gadolinium chloride and oleanolic acid in the protection against carbon tetrachloride-induced hepatic and renal damage

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The potential protective role of aminoguanidine, gadolinium chloride and oleanolic acid in carbon tetrachloride (CCl4)-induced hepatotoxicity and nephrotoxicity was investigated in rats. Pretreatment of rats with aminoguanidine (50 mg/kg), gadolinium chloride (10 mg/kg) or oleanolic acid (25 mg/kg) protected markedly against hepatotoxicity and nephrotoxicity induced by an acute toxic dose of CCl4 (2 g/kg) as assessed by biochemical measurements and by histopathological examination. Also, pretreatment of rats with any of these agents elevated the survival rate of rats treated with the toxic dose of CC14. Concomitantly, pretreatment of rats with aminoguanidine, gadolinium chloride or oleanolic acid suppressed CCl4-induced elevation of nitric oxide (NO) production and hepatic and renal malondialdehyde (MDA) level as well as reduction of hepatic and renal intracellular reduced glutathione (GSH) level and glutathione peroxidase (GSH-Px) activity. Similarly, daily treatment of rats with a smaller dose of aminoguanidine (10 mg/kg), gadolinium chloride (3 mg/kg) or oleanolic acid (5 mg/kg) concurrently with a smaller toxic dose of CCl4 (320 mg/kg) for one week protected against CCl4-induced hepatotoxicity and nephrotoxicity. This treatment also completely prevented CCl4-induced mortality and inhibited CCl4-induced elevation of NO production and hepatic and renal MDA level as well as reduction of hepatic and renal intracellular GSH level and GSH-Px activity. These results provide evidence that inhibition of oxidative stress and NO overproduction may play a pivotal role in the protective effects of aminoguanidine, gadolinium chloride and oleanolic acid against CCl4-induced hepatic and renal damage.

PP-556

Insulin Resistance and Malathion Exposure Among A Group of Farmers in AL-Sharkia Governorate

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Background and aim of the work: Exposure to certain environmental toxicants may be associated with increased risk of developing diabetes mellitus. The aim of the present study was to investigate the relation between chronic exposure to malathion and insulin resistance among farmers.
Subjects and methods: The study included 49 non diabetic farmers who handle agricultural insecticides during their field work. All were males with mean age 39±12 years. Another 45 administrative employees at Zagazig University Hospitals, non diabetic males well matched in age were selected as controls. History taking including family history for diabetes, general assessment of blood pressure, height, weight, waist circumference and body mass index were done for all participants. Blood samples were withdrawn for measurement of malathion blood concentration and assessment of fasting blood glucose, and fasting insulin for calculation of the Homeostasis Assessment Model for Insulin Resistance (HOMA-IR).
Results: The range of the exposure period for agricultural pesticides was 15–30 years. 24.5 % had positive family history for diabetes. It was observed that there was a significant increase in the mean values of malathion blood concentration among studied farmers compared to corresponding controls. There was a strong positive correlation between malathion blood concentration, waist circumference and insulin resistance. It was also observed that the increase in the mean values of waist circumference and body mass index was associated with a significant increase in the mean values of malathion blood concentration.
Conclusion: The current results suggested that chronic exposure to organophosphorus malathion pesticides to non diabetic farmers may induce insulin resistance. This effect tended to strengthen as waist circumference increased.

PP-557

Lethal Intoxication With Metamizole in a Patient With Acute Myocardial Infarction and Renal Impairment

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Aim: Death was due to metamizole acute intoxication in a female comatose patient with a chronic heart condition.
Materials-methods: Forensic investigation of the case initially considered as a suspicious death of a patient with known hypertension who presented an episode of abdominal pain.
Discussion: From the patient history: 58 year old hypertensive patient was seen by the family physician 4 days prior to her hospitalization. She had fever and pain in the right hypochondrium for which she received ibuprofen, ampicillin and gentamicin. Her general condition worsened and she was hospitalized with: malaise, blood pressure 80/40 mmHg, heart rate 65b/min, comatose state, diffuse pain in the abdominal region and macroscopic haematuria. The cardiological examination revealed the following: blood pressure 80/50 mmHg, heart rate 160b/min, ECG - atrial fibrillation with rapid ventricular response, diffuse ischemic modifications; Transthoracic echocardiogram: normal sizes, preserved systolic function, no observable valvular pathology, no pericardic liquid, no pulmonary hypertension; atrial fibrillation due to metabolical hydroelectrolytic imbalance (acidosis)
Diagnosis: Septic shock. Multiple organ failure. Suspicion of acute pancreatitis. Paroxysmal atrial fibrillation. Visceral obesity. Profound coma followed by death in 5 days.

The forensic autopsy revealed: congested leptomeninges, cerebral edema, pleural sanguine suffusion, hemorrhagic acute pulmonary edema, cardiac fibrosis, acute myocardial infarction, gastric hemorrhage, hepatic necrosis, pancreatic hemorrhage, shock kidney. Toxicological examination by gas chromatography–mass spectrometry (GC-MS) showed a metamizole concentration of 49.9 μg/ml in the blood and 11.6 μg/ml in the stomach. The forensic expert considered that the acute metamizole intoxication was the main cause of death.
Conclusion: Easy access to metamizole and self-administration without informing the physician bears a risk of acute intoxication and even death.

The effects of analgesics can mask symptoms and even the intensity of phenomena such as acute myocardial infarction and can hinder the correct diagnosis and thus the adequate treatment.

PP-558

Effect of selenium on thyroid biochemical and histopathological changes induced by subchronic lead acetate exposure in adult albino rats

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Background: Lead remains a considerable environmental pollutant and public health problem, which is known to cause a number of adverse effects in both human and animals. Selenium is an important trace element needed for normal thyroid function. This trace element acts as an antioxidant in the thyroid and a regulator of thyroid hormone homeostasis

In our study we evaluated the effect of selenium on thyroid function and histopathological changes induced by subchronic lead acetate exposure.
Method: We conducted the study for eight weeks on fifty adult albino rats of both sexes divided into five groups, each group contain ten rats: negative control group (I), positive control group (II), positive control selenium group (III) in a dose of 0.35 mg/kg bw; po daily, lead acetate group (IV) in a dose of 60 mg/kg bw; po daily and selenium (0.35 mg/kg bw; po daily)+lead acetate (60 mg/kg bw; po daily) group (V). After eight weeks rats were anaesthetized by ether and blood samples were collected to evaluate thyroid function in form of T3, T4 and TSH levels as well as lead level. Animal were sacrificed and thyroid tissue was obtained to estimate lead content in thyroid tissue. Then specimens of thyroid were subjected to histopathological staining with hematoxylin and eosin and examined by light microscope.
Results: Results revealed significant decrease in both T3, T4 levels and increase in TSH level in lead acetate group (IV) when compared with control group (I). An increase in lead content in thyroid tissue was observed in lead acetate group (IV). As regard histopathological results, there was numerous variable sized thyroid acini lined by columnar epithelium and filled with homogenous eosinophilic colloid material showing peripheral scalloping. On the other hand, rats treated with selenium+lead acetate group (V) showed increase in both T3, T4 levels and decrease in TSH level but not returned to normal when compared with lead acetate group (IV). Additionally, lead content of thyroid tissue was significantly decreased when compared with lead acetate group (IV). As regard histopathological results, there was some acini filled with cubical epithelium with no peripheral scalloping.

Conclusion: We concluded that selenium has an ameliorative effect on lead acetate induced biochemical and histopathological changes in thyroid.

PP-559

The Protective Effects of Silymarin Against Gibberellic Acid (GA3) Induced Hepatotoxicity in Adult Male Albino Rats

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Background: Gibberellic acid (GA3), a plant growth regulator, is widely used in agriculture of many countries including Egypt. However, its potential hazardous effects on human health were relatively unexplored. The purpose of this study was to investigate the Protective effects of silymarin against GA3 induced hepatotoxicity in adult male albino rats.
Method: The study was conducted on fifty adult male albino rats for 6 weeks which classified into five groups. The negative control group (I), positive control group (II) received NaOH; the vehicle 0.1 N, positive control silymarin group (III) received silymarin in a dose of 1000 mg/kg/day, experimental group (IV) received GA3 in a dose of 75 ppm (part per million) daily in drinking water for 6 weeks and experimental group (v): received GA3 in a daily dose of 75 ppm and silymarin in a daily dose of 1000 mg kg for 6 weeks. At the end of the experimental period, all rats were anesthetized and blood samples were collected for measuring of serum (alanine aminotransferase (ALT), Oxidative biomarker malondialdhide (MDA) and erythrocyte catalase (CAT) levels then, the animals were sacrificed and liver specimens were subjected to histopathological examination.
Results: The results revealed that GA3 sub-chronic toxicity induced a significant increase in serum ALT and MDA level with a significant decrease in erythrocyte CAT enzyme activity in comparison with negative control groups. Histopathological examination using light microscope showed hepatocytes vacuolization, inflammatory cells infiltration and portal tracts inflammation. Moreover, Immunolocalization of BCL2 showed over-expression of this protein. CO Adminstration of silymarin showed a significant improvement as indicated by biomarkers (serum ALT & MDA and erythrocyte CAT enzyme activity) and histopathological finding in comparison to GA3 treated group. The results of this study suggested that silymarin supplement can improve GA3 induced hepatotoxicity.

PP-560

Carbon Monoxide Poisonings in Cukurova, Turkey: Five Years Analysis

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Background: Carbon monoxide (CO) intoxication continoues to be one of the most common causes of morbitidy due to the poisoining in Turkey. Human toxicity is often overlooked because CO is tasteless and odorless and its clinical symptoms and signs are non specific. The aim of this study was to present the characteristics of medicolegal autopsies of CO poisoning cases during a period between October 2006 and August 2011 based on data collected from result of toxicological analysis in the laboratory of toxicology in The Turkish Forensic Medicine Council Adana Group Administration.
Materials-methods: This study was based on autopsy records of Morgue Department of The Turkish Forensic Medicine Council Adana Group Administration which were evaluated retrospectively for all carbon monoxide poisoning recorded between October 2006 and August 2011. Cases were analyzed according to the following criteria: origin, age, gender, month, year, presence or not of autopsy report and post mortem blood carbon monoxide determination.
Results: Based on the scene investigation, autopsy examination, and toxicology study, 373 (5.22 %) of the 7141 autopsies were determined to be caused by poisonings between October 2006 and August 2011. 140 (37.30 %) out of the 373 toxicology analysis performed were recorded as acute CO intoxications. Males predominated in accidental CO poisoning with 90 cases (62.9 %) while females represented 50 cases (37.1 %). The highest frequency of CO deaths was found in December and February with 40 cases (28.57 %) and 28 cases (20.00 %), respectively. The highest poisoning frequency was recorded for the age mean 41.58 ±23.28 years old.
Conclusion: Carbon monoxide poisoning is one of the most important intoxications in Turkey. Acute intoxication is too dangerous because of its speed in addition to the particularities of carbon monoxide (CO) which is one of many ubiquitous contaminants of our environment that requires prevention and control measures indoors and outdoors to insure adequate protection of public health. It was concluded that educational programs for the community, particularly those of low socioeconomic level should be initiated to educate individuals regarding poisoning and the possibility of death as a result of such exposure. Such efforts should help decrease the number of the fatal poisonings in the future.

PP-561

Comparison of Therapeutic Drug and Other Intoxications in Istanbul between 2009–2010

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Objectives: In 2009 Ministry of Health hold the exchange rate in order to reduce the drug costs and took a series of measures to take down the drug prices. The statistics of poisoning in 2009 and 2010 are compared and studied if the increase of therapeutic drug poisonings is significantly different than the other types of poisoning. The aim of this study is to create a preliminary research for the policies of therapeutic drug discounts whether to take poisoning rates as a criterion.
Methods: According to Istanbul Provincial Health Authority database, the year of 2009 and 2010 statistics were analyzed with the SPSS 17.0 statistical program.
Results: In 2009 the first three reasons of poisoning were therapeutic drug poisoning (%37), food poisoning (%35), carbon monoxide poisoning (%7). On the other hand 2010 poisoning statistics were therapeutic drug poisoning (%53), food poisoning (%15) and carbon monoxide poisoning (%20). Other than the carbon monoxide poisoning, therapeutic drug poisoning rates are significantly increased in 2010 than the other common causes of

poisoning when compared to 2009, the year that the policies of reduced drug prices was effective.
Conclusion: The rate of antibiotic utilization in the world is %9.9 within the other drugs while this rate is %19.0 in Turkey. It is considered that this is an indicator of uncontrolled utilization of drugs in Turkey. For this reason we think that while the policies of drug prices are formed the toxicological effects of the drugs should be taken into consideration.

MEDICAL MALPRACTICE

PP-562

FOR DOCTOR& Patient's SAFETY: How to avoid Malpractice in Forensic ENT. Medicine?

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Problem addressed: Because of Many cases of Medical Malpractice, trauma and Pathology, referred from the different points of police and courts, in KUWAIT or from the medico-legal doctors for consultation. Also from Persons & Lawyers that need Medico legal Consultation Report from ASCC about their Criminal or Civil Cases, it was much important to pay attention for this & to prepare a scientific CORRECULUM or GUIDE in this field to know What is Malpractice & How to avoid it IN forensic Oto-rhino laryngology?.
Methods and measures: Forensic ENT. Specialist examines more than 9830 cases along 10 years in G.D.C.E, ASCC in KUWAIT, & records his notes using the most recent procedures & Apparatuses with total quality means for accurate exam. of ENT. Cases clinically& focus on medico-legal point of view, presence of trauma, or pathology its type & the way it was inflicted & its clinical picture.
Results: - Forensic ENT MEDICINE is" the science that studies the clinical aspects& medical rules related to ENT. Practice from the medico-legal points of view & preparing to be ready for law application in the service of justice & science for THE SAKE OF HUMEN RIGHTS".
- differentiation between real or fabricated,recent or old, traumatic or pathological or malingering reporting about affection, type or nature, cause, used tools, date relation to the accident, time needed for cure & its fate or prognosis, with disability& its percentage, if permanent infirmity is present.in the form of full, accurate,sharp& fair forensic ENT. medico-legal report.
- clear much new facts in this new specialty practice, with new recommendations e.g.: in CASES of: 1- illegal&abuse in Cosmetic Rhinoplasty
2- HEAD TRAUMA&Fracture nasal bone
3- New modified OLFACTION TEST
Conclusions: Clinical Significance of Study is to: Record the results of this experience in a recent book: " FORENSIC ENT MEDICINE" to be the 1st textbook in the world, as a GUIDE, to clear much new facts in this new specialty practice, ideal guide for doctors how can AVOID MALPRACTICE IN,ALSO prepare forensic report& as a scientific curriculum, for the service of science & justice, FOR PATIENT& Doctor's SAFETY as HUMAN RIGHTS

PP-563

Pulmonary thrombembolia following the extirpation of a vesical papillary carcinoma

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Introduction: We present the case of a sudden death due to pulmonary thrombembolia following the extirpation of a vesical papillary carcinoma. Although the incidence of thrombotic events after pelvic surgery is non-negligible, the extirpation of the vesical carcinoma as a cause of fatal thromboembolia has rarely been referred.
Methods: The corpse of a male patient, 64 years old, underwent autopsy in a forensic facility, at the Institute of Forensic Medicine in Tirana, Albania. The sudden death dated on 2009, and followed the urological intervention with nine days. According to the medical file, total extirpation of the urinary vesicle was performed under general anesthesia, and the fourth day after the intervention the patient was put under anticoagulants. Macroscopic and microscopical study of the corpse was performed, and a detailed description with photographing of the findings was duly registered.
Results: The autopsy proved the lack of urinary vesicle due to surgical extirpation, the ureterocutaneostomy, as well as thrombotic formations inside middle-caliber pulmonary arteries. Atelectatic areas with compensatory emphysema was as well seen in some pulmonary areas microscopically controlled. Foci of acute pulmonary edema testified the overall picture of a pulmonary thrombembolia.
Conclusion: The event of a pulmonary thrombembolia is a potentially fatal, therefore a meticulous control of all risk factor prior to any surgical intervention is a indispensable condition, since in some cases the anticoagulants in a preventive dosage, might not suffice to avoid such abrupt and severe complications. Thorough cardiovascular examination of the patient, together with an informed consent for the possible risk in the event of short or middle-term complications might as well decrease the probability of malpractice litigation, when such complications occur.

PP-564

Review of All medical errors referred to the Shiraz`s Court in south of Iran during the 2010 to 2011

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Introduction: Today, despite efforts of medical society and medical and health care technology, and despite progress, dissatisfied patients is increasing that, although the one hand it could be due to medical errors, but on the other hand, many rooted in other causes such as lack of physician communication with patients, increase patient awareness of their rights and are in many cases. In this study, the frequency of medical imagery referred to the referred to the Shiraz`s Court in south of Iran during the 2010 to 2011
Materials-methods: In a study of all cases of failure of medical malpractice referred to the Shiraz`s Court in south of Iran during the 2010 to 2011 and due to the inclusion and exclusion criteria of the study separately demographic, site remedial action, the outcome of treatment, theres failure, type of specialty physicians. Finally all dates analysis with SPSS version 17 and Q-Square test.
Results: In total 621 cases were investigated the sex of 76/4 percent was men and 23/5 percent was women and both sex with average age was 28.9±5.6 years old. The highest age group complained of 20 to 29 years and 30 to 39 years, 58/2 percent of the study population was

married, most jobs people was self-employed with 33/6 percent. Most complaints related to staff specialist with 74/8 percent. 62 cases were missing datas.

Discussion: Based on results from this study and due to negligence, there most be accepted in plastic surgery, general surgery, orthopedics and GYN specialist, promote education of this group of physicians and using credit education programs, related Company units and legal sciences.

PP-565

Obstetric and gynecologic malpractice in CANADA: incidence, impact, causes and prevention

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In this study the opinions given by the lawcourts and public defenders in the Forensic Medicine Association's First, Second, Third, and Fifth Specialization Divisions between the years 2000 and 2010 (approximately 250,000 files) were examined retrospectively. It was determined from these that there were 602 cases of medical malpractice.

In examining the distribution of cases based on speciality branch, it was established that 16.82 % (n=87) were in the area of obstetrics and gynecology, 7.69 % (n=58) in general surgery, 17.53 % in neurology and neurosurgery, and the remaining areas were found to be at lower percentages. It also showed that in recent years there has been an increase in the number of cases claiming medical malpractice in the area of obstetrics and gynecology, and that 48 % of the cases (n=52) from 2008 to 2010 were in this area. 92 % of the 84 cases that claimed malpractice in the area of obstetrics and gynecology were found to be related to obstetrics and 3.8 % (n=4) to gynecology and surgical procedures. In 31 % (n=33) of the 107 cases fault was found; all of the cases where medical malpractice was found were in the area of obstetrics and none of the cases related to gynecology were found to have an element of error. Cases that had an element of error were evaluated from the aspect of profession of the health care personnel at fault, areas of fault, places where fault occurred, situations that resulted in death, cause of death, whether or not an autopsy was done, injury that resulted from fault, intervention that was done, and obstetric and gynecologic risk factors that set the stage for claims. Care standards and breach of standards were examined.

PP-566

Obstetric malpractice litigation and cerebral palsy in term infants

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Despite the recognition by many researchers that cerebral palsy (CP) is rarely related to obstetric malpractice, there are many instances where obstetricians face litigation when a child is diagnosed with cerebral palsy following a difficult delivery. The aim of this paper is to review relevant research papers to aid practitioners involved in obstetric malpractice litigation. It is also prudent to question the feasibility of costs for long-term care for children with disabilities being met through the legal process.

PP-567

Malpractice Risk According to Physician Specialty

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Using physician-level malpractice claims obtained from a large professional liability insurer, we characterized three aspects of malpractice risk among physicians in 25 specialties: the proportion of physicians facing a malpractice claim in a given year, the proportion of physicians making an indemnity payment, and the size of this payment. In addition, we estimated the cumulative career risk of facing a malpractice claim for physicians in high- and low-risk specialties..

We obtained physician-level data on malpractice claims from a large, physician-owned professional liability insurer that provided coverage to physicians in Quebec.The data included records on closed malpractice claims for 12,916 physicians who were covered for at least one policy year from 2001 through 2010. The number of physicians grew steadily from 9,443 in 2001to 13,766 in 2010. We identified 24 specialties that had at least 500 physicians represented in our sample. Physicians belonging to other, smaller specialties were grouped together in an "other specialty" category. Across specialties, there were 113,738 physician-years of coverage, with an average duration of coverage of 4.1 years (range, 3.6 in pediatrics to 5.3 in thoracic–cardiovascular surgery). The most common specialties in our data were anesthesiology, family general practice, and internal medicine.

For each specialty, we began by calculating the proportion of physicians who faced a malpractice claim in a given year. We distinguished between claims leading to indemnity payments versus overall claims (those with a defense cost but not necessarily a payment). In sensitivity analysis, we adjusted for physician age, year, and state to examine whether these adjustments would affect our reported estimates.

There are few recent estimates on the likelihood of malpractice claims and the size of payments according to physician specialty. Using physician-level malpractice claims from a nationwide liability insurer, we found substantial variability across specialties in each of these descriptors of liability risk. Specialties in which the largest proportion of physicians faced a claim were not necessarily those with the highest average payment size. For example, physicians in obstetrics and general surgery — both fields that are regarded as high-risk specialties — were substantially more likely to face a claim than pediatricians and pathologists, yet the average payments among pediatricians and pathologists were considerably greater. The same pattern was noted in a national analysis that was performed more than two decades ago

PP-568

The "Giustacausa" Association: permanent researcn centre and an "observer" of medical malpractise. Analysis of the first year activity

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The Association, which has been active since January 2011, was conceived under the sole wish to pursue social solidarity, offering support, assistance and protection to the victims of medical malpractice throughout Italy and with the awareness that today more Italians undergo erroneous surgeries, errors in medicine administration and superficial diagnosis. In only six months of activity the Association has received several certificates and special awards as the one given by the Undersecretary of Public Health, Hon. Francesca Martini.

"GiustaCausa" is a real task force against medical malpractice. They are joined every day by the best Italian professionals specialized in the medical and legal fields to assist and give advice to those citizens who are victims of medical and health inefficient services.

The main task of the Association is that of supporting the actions of those who will have the right to a compensation, while, at the same time, it makes efforts to dissuade those citizens who, after carefully analizing their documentation, won't present the conditions to take legal action.

The "GiustaCausa" Association, which has had several famous people as testimonials, since the time of its creation, has been a source of updated information and data either for the press than for the organizations in charge of these matters, to propose an analysis of the general perception of health and of the conditions of the private and public health of our country.

In our first year activity result that the phenomenon of "health migration" has risen: there are real "trips of hope" of patients from the South and Centre of Italy towards Northern health institutions of the country. Peaks of malpractice cases reported are from the Surgery field followed by the Orthopaedics, Gynaecology and Neonatal sectors. A significant rise in plastic surgery and aesthetic medicine malpractice reports has occurred since last Autumn as a direct consequence of the PIP mammary prostheses scandal.

In addiction plastic surgery, also creates a dispute regarding the dissatisfaction of the patient, generate psychological problems as a result of negative outcomes among these disorder we found predominantly "Adjustment Disorder with mixed Anxiety and Depressed mood" and to a lesser extent "Post-traumatic Stress Disorder".

Finally, only 23 % of malpractice cases can be taken to Court.

PP-569

Medical malpractice in abdominoplasty: About five cases

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Background/Purpose: The expertise in medical malpractice regarding abdominoplasty has several particularities related to the high number of surgical problems in this discipline, the multitude of therapeutic modalities used and the fact that complications often interest patients without any pathological condition.

The purpose of our work is to discuss various situations implicating medical malpractice in abdominoplasty, in order to prevent such situations.

Method: Our study focuses on five cases of medical malpractice regarding abdominoplasty collected the Department of Forensic Medicine of Charles Nicolle Hospital in Tunis.

Result: The five cases studied concern all patients who underwent surgery in private institutions by plastic surgeons under general aesthesia. Acts carried out consisted mainly of abdominoplasty combined with an act of liposuction of abdominal fat.

The five cases studied involve complications that have all led to patient death.

In the first and the fifth case the death occurred due to a nosocomial infection.

The second case involved a death due to peritonitis secondary to an unrecognized mechanical perforation of the small bowel that occurred during a liposuction

In the third case, death occurred in the immediate postoperative period following myocardial infarction in a patient who gathered several risk factors.

In the fourth case, the death resulted from a massive bilateral pulmonary embolism occurred in immediate postoperative period. Experts in four cases retained medical malpractice.

Conclusion: These situations, which evoke medical malpractice regarding abdominoplasty, could be multiplied because of the increase and the changing demands of patients seeking abdominoplasty during these last years.

The skill, prudence, respect of safety rules, information and communication are the code of good practice in this field.

PP-570

A Fatal Case of Hypovolemic Shock After Cesarean Section

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We report a fatal case of hypovolemic shock caused by uncontrollable hemorrhaging after emergency cesarean section. In this patient, the incision in the uterus was located only 1 cm from the cervical os. We suspect that this close incision was the cause of the damage to the uterine venous plexus and the bleeding. We discuss the cause of death and offer advice on performing autopsies in patients who have died of bleeding after cesarean section.

PP-571

Iatrogenic asphyxial death in an elective cesarean section with esophageal intubation

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The mortality rate of general anesthesia is about 5–6 death per million anesthetic administrations and malpractice premium for anesthesiologists is close to the range of primary care physicians. In fact, it is difficult to sort out mortality due to surgical complications, and patients underlying disease from that due to general anesthesia. This case report and review of article is about a 30 year old, female, G3P3L2A0, in the last week of gestation admitted in a hospital for elective cesarean section and tubal ligation. Pre-op clinical and Para-clinical assessments were at the normal range. After prep and drape under general anesthesia operation started and product of conception, which was a full term healthy boy, delivered. Few minutes after delivery color of maternal blood changed to darkness and o2 saturation began to drop. Despite heavy efforts on therapeutic and supportive managements she died with cardiac arrest.

Medico-legal autopsy to find out the cause of death and determination of responsibility of each medical team was performed.

Anesthesiologist responsibility due to an error in intubation (esophageal intubation) established by autopsy findings and review of medical records.

PP-572

A Case Report: Forgotten Foreign Body in the Pericardium After Surgery

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Even if it is unusual, foreign bodies forgotten in the pericardium after surgery are encountered in the literature and this involves a significant proportion of the medical malpractices. On the other hand, due to the characteristics of the intervention zone, these kind of malpractices are less encountered in thoracic surgery when compared to other zones. The case is a male patient, who has been treated wrongly by COPD diagnosis for long time due to a forgotten foreign body in the thorax after bypass surgery.

The case was taken to a coronary bypass surgery as a result of coronary angio in the hospital where he admitted with complaints of chest paint. He was discharged from the hospital after the surgery. The following two years after the surgery, he had many medical applications with complaints of cough and back pain and he was treated by COPD diagnosis. After 2,5 years he

applied to the hospital where his thoracic computerized tomography was scanned. In his report, a mass lesion including heterogenous, hypodense and hyperdense zones with approximately 10x7x7 cm dimensions. These were confined from anterior and posterior by prominent postoperative metallic hypertonicities in the left ventricle posterior coordination. In the same hospital, in the echo test done by the cardiology department, a bulk image involving cystic and heterogenous structures with 7,5 – 4,5 cm diameter was located. The case was taken into another surgery with foreign body in the thorax diagnosis. In the operation, the foreign body in the pericardium of the heart's posterolateral was removed and discharged from the hospital with full recovery. In the patient's follow-ups it was monitored that the respiratory distress dissapeared.

With regard of the foreign bodies forgotten during the surgery, both the medical doctor and personnel are confronted with sanctions within the scope of both criminal and compensation law. According to the juridical understanding composed in our day, forgotten foreign bodies are regarded to be wilful defaults. Medical interpretations in terms of degree of faults can be done by also prying components like, emergency conditions of the surgery, the character of the operated zone. This case, right along with being uncommon, is conidered to be commendable on the purpose of designation of binding procedures both for legislation in force and prevention of this kind faults from the medical aspect.

PP-573

Post-thyroidectomy asphyxia due to missed monitoring

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Background: Thyroid surgery provides some complications including laryngeal nerve injury, permanent hypoparathyroidism, and post-thyroidectomy hemorrhage. Postoperative hematoma often may be fatal and its incidence varies between 0.1-1.1 %. Some causes of post-thyroidectomy hemorrhage are slipping of the ligature on major vessels, reopening of the veins cauterized, retching and bucking of the patient during recovery, Valsava maneuver, increased blood pressure and oozing from the cut area of the thyroid.

In the case here presented, a man was admitted to a Surgery Thoracic Unit with diagnosis of thyroid goiter, with consequent enlargement of the thyroid compressing adjacent anatomical structures. The possibility of malignancy and the compressive action impose surgical excision as primary treatment. The aim of this presentation is to report a post-thyroidectomy hematoma that was not corrected diagnosed e treated by physicians causing patient's death.

Method: A 41-year-old man was underwent total thyroidectomy; the surgery was difficult because of the enlargement of the organ. Haemostasis was achieved, and two suction drains were kept before closure. The first day after intervention, the suction drains contained 100 ml of blood bilaterally, and physicians observed edematous succulence of the cervical tissues. The day later he complained neck pain, restless, pain during swallowing, upper limbs paresthesias, increasing cervical succulence. Nevertheless doctors only removed stitches and evacuated blood clots reassuring the patient about the absence of complication.

Only after two days he was finally sent to operating room. While doctors were proceeding to decompress the hematoma, arterial blood pressure and heart rate decreased. The man died shortly after, despite medical resuscitation.

Results: At autopsy, we found diffuse hemorrhagic infiltrations of neck's muscles and in particular of sternocleidomastoid. The hemorrhage extended from the mandible to the sternal manubrium and clavicles.

Histological examination revealed out macrofollicular and colloid cyst thyroid structure with marked congestion of intraparenchymal vessels, fragmentation of myocardiocytes, pulmonary edema, and congestion of other organs.

The cause of death was indeed attributed to extrinsic compression of the upper airways by the hematoma of the neck.

Conclusion: Hematoma is the most serious complication of thyroid surgery that can be fatal in few cases. However, physicians can manage this potentially lethal complication by several treatments such as careful haemostasis, paying to signs of respiratory distress, and monitoring in the recovery room.

PP-574

Medicolegal Evaluation of Informed Consent Forms Used in An Eye Clinic in A Training and Research Hospital in Istanbul

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Background: Nowadays, patients are becoming more and more responsible partners in their health care. If a patient is an adult and able to make his/her own decisions, he / she is the only person who can choose which his/her doctor recommended about his/her treatment. An informed consent recognizes the patient's need to know about a procedure, surgery, or treatment, before the patient decides whether or not to have it. An informed consent includes the purpose, benefits, risks and other options of the test or treatment. When the patient signed the informed consent form, it shows that the patient understood the information about his/her medical process. The aims of this study are to analyze the informed consent forms in medico legal aspect and to determine if they are accordance with Turkish Laws or not and if there is any need for revision of forms or not.

Method: For this study, ethics permission document and corporation permission from Istanbul Provincial Directorate of Health were taken. Patients' records, which were belong to patients, who were operated in an eye clinic in a Training and Research Hospital between 01 May 2011 and 31 July 2011, were analyzed retrospectively. Data about informed consents were statistically analyzed using SPSS programme (version 14.0).

Results: In this study, 250 patients' informed consents were analyzed. 154 (61.6 %) males and 96 (%38.4) females, having the age range 1 to 92 years, were studied. Related to patients aged 18 and over, it was seen that 168 patients (78.1 %) had signed the informed consent forms by themselves, but there wasn't any signature on 31 (14.4 %) patients' informed consents forms. For patients aged under 18, there is only one informed consent form without signature. There were no signatures of the doctors on 23.6 % (59) of the forms. Also, it was seen that 6.4 % (16) of the forms were not compatible with the operation on the informed consent form be signed.

Conclusion: Informed consent is not an old concept for Turkey. Nowadays, informed consent forms are being used but, the importance and the components of the forms have not been clear for Turkey, yet. Informed consent is a very important medicolegal risk management tool. With this tool, physicians can minimize their juridical and criminal risks. Because of these, studies about informed consent must be developed and educations, seminars must be given to health professionals about this ethical duty and also about this legal procedure.

PP-575

Medical liability in general surgery. A forensic approach

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Background: Medical liability is an up and coming question, since the community mindset is changing. In Portugal, there are few studies about medical liability, namely in a forensic perspective. General surgery (GS) is the third most common medical area implied. Our aims were to evaluate the current situation on medical liability in GS, the reasons for claims, the medico-legal conclusions, and the association between them and the judicial outcome.
Method: We analyzed reports from the Medico-Legal Council of the National Institute of Legal Medicine of Portugal (CML) related to GS, during 2001–2010. Judicial outcomes of each case were required from the Public Prosecutor Office (PPO) and court. Statistical analysis was performed using chi-square test and the significance level considered was less than 5 %.
Results: Alleged cases of medical liability in GS represent 11.2 % of the total of cases analyzed at the CML. We estimated that in Portugal 4:100.000 surgeries are subject to litigation. The majority of complaints were due to patient's death (75.4 %). Surgeries were involved in 55.2 % and the most involved was laparoscopic cholecystectomy. In 76.1 % of the cases the CML considered that there was no violation of leges artis; in 55.2 % did not admit causality nexus between the medical practice and the alleged harm. The PPO prosecuted 8 doctors in 3 cases (6.4 %), being only 1 convicted. The CML reports are an important technical-scientific tool for judicial decision; its reports significantly influenced the prosecutor decision ($p<0.05$).
Conclusion: The first step to really understand the Portuguese medical liability situation has already been given, with the creation of the CML. It allowed courts to ask for technical-scientific reports from a competent and reliable institution, gifted from the technical and knowledge skills necessary to deal with medical litigation. Nevertheless, there is still a long way to go, the exact problem still lies in the pyramid basis - doctors behavior. In the future, new studies should be performed regarding error or technical misadventures in surgeries involved in medical litigation as in the Harvard Medical Practice Study and American College of Surgeons Study. The comprehension of adverse outcomes and the reasons behind them, should, in a behavioral and technical perspective, help health care professionals and health system prevent error and as a result decrease medical litigation.

PP-576

Patient Complaints Management: Approach of Istanbul Health Directorate Oral and Dental Health Department

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Objectives: The World Medical Association defines malpractice as "the physician's failure to conform to the standard of care for treatment of the patient's condition, or lack of skill, or negligence in providing care to the patient, which is the direct cause of an injury to the patient." Dentists, like other doctors, can face punitive and legal consequences if patients are not satisfied with the dental treatment. The aim of this study was to describe patient's complaints and requiring about private and public dental clinics to Istanbul Health Directorate Oral and Dental Health Department.
Methods: It was conducted a retrospective study. The period was from May 2009 through May 2011, based on the complaints in dental malpractice claims and requiring about Dental Health Care System in İstanbul. The documents were studied in relation to details of the complaint, the location of the event, medical application, age and gender of the patient, gender of the dentists and the reasons for fault.
Results: During these 2 years, 416 application was found, 8 patients or relatives had a complaint more than one. In all cases, 354 patient with known gender was found. 240 male (67,7 %) and 114 female complainant determined, 141 dentists was complained, 56 male (49 %), 85 female (51 %) dentists performed the dental treatmant. In all cases, complaints were in fixed to related 223 claims (67,5 %) from public hospitals and dental health center,96 claims (29 %) from private sector and 11 claims (3.5 %) from university hospital. The rest of claims defined personal application for help such as difficulties in reaching services and management problems. İn all applications, 92 claims (22,5 %) identified dental malpractice. The majority of complaints were in fixed prosthodontics (n=35,38 %) and oral surgery (n=11, 11 %). There were 3 informed consent in written form and in 4 cases verbal informed was found.
Conclusion: Like all other medical staff, dentists are under the obligation to comply with the legal rules in the country they practice. Present medical and technological developments force dentists to perform risky treatments and the compensation cases brought against dentists in malpractice cases put too much pressure on them. Receiving complaints is a strong marker for increased medicolegal risk management episodes and should prompt early corrective action. This study showed importance of dentist's communication skills during treatment procedure. Dental and oral health care facilities should be built again in terms of complaints management.

PP-577

Varese hospital accident assessment committee. Legal medicine activity in medical malpractice claims analysis from 2007 to 2011

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The Authors present the activity carried out by Accident Assessment Committee medico-legal members from 2007 to 2011, and propose an epidemiological descriptive study which shows typology and distribution of claims connected with adverse events in health service. The research aims to outline a detailed description of accidents occurrence by identifying critical areas involved in claims and most frequent causes of patient injury. Therefore providing useful elements in order to detect and implement mechanisms to rectify and prevent error causes, reduce adverse accidents occurrence and increase standard of health care quality in Varese Hospital.

The Authors have created a damage claims database. These claims have been divided into three categories: material damages, people injuries not related with medical malpractice and malpractice injuries (334 cases, 74 %). The latter has been analyzed by area: medicine, surgery and health services and emergency medicine. Furthermore surgical branch has been investigated in order to find out the mostly involved surgical specialties mostly involved and the types of occurring accidents.

Damages examination reveals that the number of medical malpractice injuries gradually decreased in the considered years (41,17 %). Surgery

was the most frequently involved area in such accidents (202 cases). During the five-year period considered General Surgery, Orthopedics and Obstetrics collected the highest number of claims for damages. Most frequent types of error are iatrogenic injuries during surgical performances (128 cases), followed by the diagnosis errors (24 cases) and infective complications 15 cases).

Medico-legal method of medical malpractice claims analysis within Accident Assessment Committee has a significant role in identifying critical aspects of health care pathway, proposing corrective measures, suggesting dispute resolution methods, developing insurance policy and reducing costs of medical malpractice ligation.

Increasing medico legal activity should improve medical errors prevention, increase quality of health care and patient safety and furthermore reduce health care costs.

PP-578

Myelopathy due to intracranial dural arteriovenous fistula with perimedullary venous drainage: medico-legal considerations on a case of diagnostic pitfall

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Background: Intracranial dural arteriovenous fistulas (DAVFs) consists of a meshwork of arteriovenous shunts and can be localized anywhere in the dura surrounding the brain. Drainage of the fistula can be into a dural sinus or directly into cortical veins. Rarely, DAVFs drain exclusively into perimedullary veins. This retrograde drainage causes congestion in the perimedullary venous system with edema and progressive loss of cord function. Knowledge of the existence of these disorders with the pathophysiologic mechanisms is important to avoid unnecessary diagnostic delay.
Case report: A 67-year-old man presented in a hospital with progressive difficulties in walking and bladder retention. Neurologic examination revealed paresis of both lower extremities. MR imaging showed central myelopathy and edema from C6 to T8 and dilated posterior medullary veins. Spinal angiography showed no abnormalities. The diagnostic impression was inflammatory demyelinating disease and the patient was treated with corticosteroids. Three days later, the patient had become paraparetic and was referred to other institution. A neuroradiologist's detailed review of the brain MR imaging revealed abnormal vascular structures around the lower brain stem and cervical cord. An intracranial DAVF was suspected and cerebral angiography showed a dural fistula at the skull base supplied by the neuromeningeal branch of the ascending pharyngeal artery and draining into the posterior medullary veins. Following neurosurgical referral, the arterialized draining vein was clipped just beyond the arterial feeders. At that time, the patient was wheelchair-bound and dependent for daily activities.
Discussion/conclusion: Intracranial DAVF is a rare disease and prompt diagnosis is important because of its potentially life-threatening clinical course. However, the early and proper diagnosis of this rare vascular malformation is challenging because the clinical manifestations are related to the anatomical distribution of the draining vein, not the fistula site.

Patients with progressive myelopathy are commonly suspected to be affected by a spinal arteriovenous malformation rather than an intracranial DAVF, so will usually have spinal angiography. However, angiographic studies must include the cranial vasculature when spinal studies are normal or if the abnormality on MRI is maximal in the upper spinal cord. In this case, exclusively medullary angiography was performed missing the diagnosis of the intracranial DAVF with perimedullary venous drainage. Hence, from a medico-legal point of view, the diagnostic delay is likely to be responsible for the severe neurological evolution of the patient.

PP-579

To Be A Medical Expert In Turkey

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İntroduction and purpose: Just as it is seen clearly in the world, as well as in Turkey, there are an increasing number of malpractice cases and a parallel growing need for medical expert support. The focus of the discussions centers on who will be the expert, and on how they will be chosen. Due to this reason, this work focuses on the utilization of expert system used for the solution of the arguments for medical malpractice in Turkey and the problems faced in this area.
Materials-method: The units where the patient complaints are filed in Turkey and the legal procedures of having an expert witness during the trial process was evaluated.
Results: The units which are affiliated with the Ministry of Health, and which are somehow responsible for management of patient complaints, utilizes the medical doctors and dentists as a expert within their own structure. Also Medical Associations and Dental Associations may also appoint expert within their disciplinary regulations.

It is seen that for solving civil and criminal cases, during the trial process, a high volume of expert service is procured from the Council of Forensic Medicine's 1st and 3rd Specialized Boards and from the High Council of Health. The courts have started to request an ever increasing number of expert witnesses from the forensic medicine departments of universities or from other relevant departments. Moreover, it is seen that the lawyers also request a high number of expert from specialist societies and from universities.
Discussion: Regardless of this intense demand, besides those forensic medicine specialist and the limited number of clinicians with a doctorate degree in Forensic Science, there is no expert who has received a formal expert witness training. However, especially in situations where cross examinations are discussed in all aspects; it is required for the judges to be knowledgeable about medical malpractice cases as well as the expert witnesses to be attentive of scientific and ethical rules, and also for them to be aware of legal processes. This requirement can only be realized with a standard education. The evaluation of the qualification in being an expert and the evaluation of ethical values can be performed by having a specified education as a foundation. Otherwise, it can be said that the new expert witness system will support a deadlock instead of a fast and trustworthy solution.

PP-580

Tracheal And Esophageal Perforation After A Difficult Intubation In Tiroid Surgery

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Introduction: Perforation after intubation of the trachea and esophagus is a rare complication that endanger the patient's life. In the cases of difficult intubation in tiroid surgery, perforation of the esophagus can be seen rarely. We want to discuss etiology of the perforations after difficult intubation in tiroid surgery with the scope of this case.
Case: 56-year-old male patient, diagnosed with multi-nodular goiter and tiroid surgery was decided.

Evaluation of the patient before surgery was recorded. It was decided as a difficult intubation. He was taken to the operating room and monitored. Following anesthesia, he was intubated. Process was failed at first attempt. Second and third attempts were performed with the help of guide and at the third attempt, intubation tube was inserted. After surgery, the patient was sent to the service, waking up without complications. In first day after operation with oral feeding, food residues were came from drainage. The patient was referred to another hospital with suspected esophageal perforation. Neck CT shows an emphysema under the skin, given oral contrast material were seen at the level of the carina in the esophagus and a defect in the anterior wall of the trachea and a tracheal-esophageal fistula were seen. Endoscopy with general anesthesia was planned. Tracheostomy was performed because of intubation failure. Tracheal perforation was confirmed at this time. Endoscopy showed dense edema 4–5 cm throughout the pharyngoesophageal junction. The patient was discharged after 10 days of treatment.

Discussion: Trachea and esophagus rupture have been reported during Goiter surgery in literature. In this case, because of 3 difficult intubation attempts with usage of guide were led to rupture of esophagus. Complication of this type can be seen in cases of difficult intubation. The esophagus and the trachea were perforated together in this case. Esophageal intubation and thyroid surgery can cause this complication. So, it was difficult to distinguee etiologic factor of this complication in such a malpractice case. It was decided in this case that because of edema 4–5 cm throughout the pharyngoesophageal junction, intubation was the reason of oesophageal perforation and tiroid surgery was the reason of tracheal perforation.

Results: During difficult intubation in tiroid surgery, tracheal and esophageal perforation is not the only etiologic factor of the goiter surgery. It was considered that esophageal perforation may be seen after intubation as a complication.

PP-581

Knowledge of Medical Student About Medical Law: A Survey of Cerrahpaşa Medical School

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Objectives: Medical applications are being held within legal limitations. Physicians have to know and do their applications under these limitations. The health personel's legal responsibilities during their occupational applications can be an issue under the circumstances of disobedience to the existing legal rules, ethical principals and standard diagnostic or medical procedures. The aim of this study was to assess the knowledge of medical students on medical errors, physicians legal responsibilities and the effect of education on knowledge.

Methods: It was invited 673 students, studying at Cerrahpasa Medical School. Over 10 % of the sample was contacted from each class. Data were collected with a questionnaire composed of 12 questions knowledge of and attitudes towards regulations for medical malpractice, physician's legal liabilitiy, informed consent, their level of comminacation skills and qualification of medicolegal education.

Results: During March of 2012 the authors give a questionnaire to some Cerrahpasa Medical School students. Out of 673 students, 48,5 % male and 51,5 female. 48,7 % students answer to question about qualification of medicolegal education as "inadequate". 13,7 % students answer to question about legal regulations for medical malpractice as "false"and 28 % studens answer as "no idea". 69,6 % students answer to question about content of the proxy contract which defines legal relation between a physicians and a patient as "false". 38,2 % students considered their communication skills as "inadequate".

Conclusion: It is essential that physicians pay regard to the national and international principles of medical law and the appropriate standars/protocols of diagnosis and treatmant. Turkish Medical Schools are showing increased interence in acquainting their students with legal aspects of the practice of medicine. However, little is known about the role of legal medicine in the medical school curriculum.

This study appears to be the first to attempt to identify the educational needs of medical students related to legal liabilities arising from medical interventions in Turkey. It provides evidence of key topics that should be included in educational programmes, namely those referring to related laws and regulations, malpractice, and ways of preventing malpractice and related problems by means of defining the relevant issues. It also includes information regarding teaching of the approaches relating to responsibilities arising from medical interventions that are considered by students to be effective during their education.

PP-582

Legal Assessment of Defensive Medicine

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Defensive medicine occurs when doctors order tests, procedures, or visits, or avoid certain high-risk patients or procedures, primarily because of concern about malpractice liability.

A majority of physicians, 83,3 %, also believe that better protections against unwarranted malpractice suits are needed in order to decrease the ordering of unnecessary medical tests.

İn this study, a survey is performed to the physicians, and the incidence, the factors affecting the practice and the legal view of defensive medicine has been searched. Also solutions has been proposed at the end of this thesis.

Most of the physicians attended to the survey are believeing that defensive medicine practice are helpful for avoiding malpractice (83,3 %). This result is similar to the results of the surveys performed in other countries. Also patient's rights, the statements against to criminal law and questioning practice of medicine are the main factors related to the subject.

Most of the defensive medicine modelling are against the law, the patient's rights and non ethical. This ıs showing that defensive medicine acts are as destructive as medical malpractice cases. This study also is showing that physicians must have a basıc knowledge about law and the basıc principles of criminal law procedures.

The study, which questioned 208 physicians is showing that the unefficient knowledge about law and the legal procedures is one of the main risks for physicians and this is acccelerating the rate of defensive medicine.

PP-583

Forensic Medical Approach to Retinopathy of Prematurity Cases

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Introduction: The increased number of premature births and survival rates also caused an improvement in retinopathy of prematurity (ROP) cases. Some of the families of the patients with blindness due to retinopathy of prematurity asked for compensation for the neglect and diagnostic errors of the doctors and these cases are evaluated at the Council of Forensic Medicine.
Method: 24 advanced stage (stage 4–5) retinopathy of prematurity cases that were evaluated in the 3rd Speciality Board of the Council of Forensic Medicine between the years 2007–2011. Besides the demographic and medical properties of these cases, first medical inspection time for ROP, delay time for this inspection, degree of retinopathy, whether this is or is not a medical malpractice case and the results were evaluated.
Results: In a five year term, a total of 24 ROP cases were evaluated in the Board. 12 of these had a gestational age under 28 weeks and 12 between 28–32 weeks. Average birth weight was 1325 grams. 7 of these cases were delivered at special clinics, 4 in Education and Research Hospitals, 12 in state hospitals and 5 in University Hospitals. 21 of them were diagnosed with advanced ROP after being discharged from the hospital whereas 3 of them were diagnosed at the hospital. Delay period for the first ROP medical inspection was less than 7 days in 2 cases, the average of this period was of 81 days and the maximum period was 214 days. Laser photocoagulation operation was attempted in 3 cases, 20 of these did not receive laser photocoagulation operation. Information about one case was unclear. In 15 cases the attending pediatricians and in 3 cases the hospital admin was found responsible. In 6 cases the pediatricians were acquitted. Court decisions could not be gathered because of the ongoing trials.
Conclusion: ROP inspections of premature infants after birth on time are the duty of the attending neonatalogists. Failure to complete this task because of different reasons makes the physician responsible.

PP-584

A Medicolegal Assessment of Hypoxic Ischemic Encephalopathy Cases

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Background: Hypoxic Ischemic Encephalopathy (HIE) is a type of brain injury in fetuses and newborns caused by systemic hypoxia and reduced cerebral blood flow due to failure of placental and pulmonary gas exchange. This condition has significance because of its long-term outcomes including: permanent injury of central nervous system cells and static encephalopathy, mental retardation and death in the following period.
Method: We retrospectively assessed HIE cases which were sent to Forensic Council of Medicine. For this cases with demographic properties, antenatal, natal and postnatal characteristics and cause and responsible of mortality were analyzed.
Results: For this study, we did an assessment of 66 cases, which were evaluated by Forensic Council of medicine in 4 years. 2 of the mothers of these cases are under 20 year-old, 54 of them are between 20–40 and one of them is over 40 years old. The ages of 6 mothers were not reported. In 23 cases it was the first, in 22 cases it was the second and in 11 cases it was the third birth of the mother. In 5 cases the mother had chronic disease. In 41 cases (66 %) the birth was a vaginal birth and in 25 cases it was cesarean section. In 9 cases (13,6 %) there were breech presentations. 59 of the mothers went to antenatal control at least one time, 2 of them never went to control and in 5 cases this situation wasn't reported. In 43 cases gestational age was between 38–40 weeks, in 14 cases it was under 37 weeks and in 3 cases it was over 40 weeks. The majority (65 %) of the patients were male. In 10 cases there were decelerations in non-stress test and in 31 of them it was reactive. In 41 cases the birth was in a state hospital, in 23 cases it was in a private hospital and in 2 of them it was in a university hospital. In 16 of the cases death occurred in 34 of them there were cerebral palsy development.
Conclusion: HIE has an importance in forensic medicine because of being a significant cause of mortality and morbidity in children. For physicians it comes into prominence to keep detailed records of patients.

PP-585

Expectations and Results in Outcomes of Tattoo Removal Operations

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Introduction: Nowadays tattoo is getting more and more popular and accepted in the society. With increased popularity, demand for tattoo removal procedure is also increasing. The type, color, area of application, age and skin properties of the person must be taken into attention for determining the wavelength of the laser, dosage of energy, adjustment for spots and number of sessions. Tattoo consists of pigment particles which are implanted into the dermis. These particles differ in size, composition and skin depth. The variation in the pigments' constitution cause chromophore changes with different absorption spectrums. This complex interaction factors cause the laser treatment's efficacy in a negative way and also the targeting rate of pigment chromophores by the laser decrease. Laser method for tattoo removal is achieved by the photo acoustic destruction of small particles, which are eliminated either by rephagocytosis of mononuclear cells via the vascular or lymphatic system, or elimination via the epidermis. After the concept of selective thermolysis came out, q-switched laser has been accepted as the gold standard for tattoo removal. The side effects of laser tattoo removal includes; necessity for multiple treatments, the risk of hypo-hyperpigmentation, bleeding after the procedure, blister formation, infection and tissue changes. Another side effect is hypersensitivity. Delayed hypersensitivity reaction against the tattoo pigments can take place in a period of days to weeks. Thus prophylactic steroid and antihistaminic treatment is a necessity.
Cases: In our study, we will discuss 4 cases which came into the interest of the 3rd Council in the first half of 2012. We will discuss whether hypertrophic scar formations that appeared after the removal of their tattoos in different body parts by IPL or laser methods is a complication or a medical malpractice case. We will discuss whether there is a way to prevent these conditions and the importance of informed consent.
Discussion: Like in every laser application, in tattoo removal, the device, wavelength and method is of great importance. However maybe the most

important of all is the difference in personal characteristics (genetic factors) and reactions to laser trauma. Thus, knowing that scar tissue will stay forever and tattoos can not be removed totally, we believe the first application must be made in a relatively smaller area and initial response must be waited so that treatment can be advanced after reinforming the patient in a customized way regarding the initial response

PP-586

An urethral "burn" after prostatectomy

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Background: The goal of this presentation is to report an uncommon case of paramedical liability during prostate transurethral resection.

Through this work, the forensic science community will consider how a surgery procedure mistake could lead to dramatic impairments, upsetting life from a psycho- social standpoint.

This case deal with a complication occurred during prostate transurethral resection. The bladder was washed with high-temperature water causing bladder and urethral irritation in the patient. After this negligent activity performed by paramedics, the patient suffered of urethral stenosis, bladder functional deficit and ureters stenosis in their terminal portion. In the following two years the patient was admitted to many hospitals and underwent another surgery procedure second Mainz II (sigmoid-rectum pouch). This surgery determine that the patient, for the rest of his life, will have the passage of urine per anus. The continuous infections caused left kidney faulty so it was finally removed. The patient have problems in the sexual approach with difficult and retrograde ejaculation. Surely the future prospects are certainly not positive, since it could come true the loss of the contralateral kidney, then you need dialysis treatment.

Method: The case here presented focus on many forensic aspects, not only for the phenomenological reconstruction of the causal relationship, which is clearly marked by history and clinical symptom, but rather for the characteristics of the story and for difficulties to identify the real and global disability, also in a prospective view for the uncertain prognosis of the condition.

Results and conclusion: This story can give topics for discussion. You will be faced with how paramedic liability may compromise the clinical history and the life of a patient. Hence it may be essential and indispensable good teamwork and a rational control of risk management in hospitals in order to avoid these mistakes that can become professional "horrors".

PP-587

Medicolegal aspects of surgical diathermy burns: a case report and review of the literature

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Diathermy plays an integral part in most operations, either for dissection or coagulation, and it is used on a regular basis by surgeons of all specialities. Even though modern diathermy equipment is considered to be safe, accidents still do happen. These accidents particularly occur if the operation performed under emergency in which the patient's clinical condition is urgently fatal and the members of the team could only focus to the surgical area. The false steps in monopolar diathermy application cause a situation called the diathermy burns. In this report we present the case who had acute chest pain due to rupture of aortic aneurism. While he was taken into operation urgently, cardiopulmonary arrest developed. He had resuscitated intra operatively and operation completed. After this operation burn on the anterior surface of the right hand, elbow and the distal forearm has noticed. We wanted to emphasize that accidental diathermy burns and its reasons and review the literature for dealing this kind of situation in the medicolegal aspects.

PP-588

A Surgeon-Patient Relationship Started as Acute Appendicitis and Turned Out to be Pseudomyxoma Peritonei: A Case Report

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Introduction: Mucinous tumor of the appendix is a rare condition which is seen only in 0,2-0,3 % of all appendectomies. It can mimic plastrone appendicitis. Diagnosis can be made with preoperative USG and CT or histopathological examination of the surgically removed tissue. Because mucinous cystadenoma is related to malignities of the colon and ovary, CT, USG and colonoscopic evaluation of the patient is very important. Pseudomyxoma peritonei is the perforation of mucinous tumors, with high mucin peritoneal implants and ascites formation. Which can be created by benign and malign mucinous tumors.

Case: Our case which came to the attention of the 3rd Council regarding malpractice, is a male born in 1975, who had right lower abdomen pain which lasted for two days and was operated with an acute appendicitis pre-diagnosis at the hospital. Four days after the operation, he was discharged with full recovery. As he stated in his complaint, his pathological results were not evaluated and thus he was not informed about it. two years after the operation he went to a doctor with the malaise and weight loss and he was diagnosed with peritoneal thickening and widespread ascites in the abdomen with abdominal CT. Because he had an appendectomy history, pathology report of the appendectomy material was asked from the hospital he was operated and in the conclusion of the report the diagnosis was mucinous cystadenoma. Further investigation showed pseudomyxoma peritonei in the patient.

Discussion: The appendectomy specimen, like all surgically removed materials, is sent to the pathology laboratory. However in some cases mimicking appendicitis, post-op evaluation of the pathological report is of great importance for the prognosis of the patient. What matters is, the approach of the surgeon after the result of the pathological evaluation of the material, which is mucinous adenocarcinoma, like our case. There are opinions that state surgery is sufficient for cases which are still mucinous cystadenoma and the importance of controls within short periods. In our case, which showed rapid advance and transformed to psedomyxoma peritonei from mucinous cystadenoma in two years, we will discuss the effects of lack of clinical follow up and informing the patient on the results. We will discuss the approach of the surgeon in a medico legal way. We would like to highlight, that there can be different pathological diagnoses besides appendicitis and the importance of the evaluation of these results on the prognosis of the patient.

PP-589

Forensic Evaluation of a Suicide Case Under Antidepressive Treatment: A Case Report

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Introduction: Major mood disorders, which were untreated or treated ineffectively, are the main clinical causes of suicidal behavior. Most of the patients are in a major depressive episode and less frequently in dysphoric mania at the time of the suicide attempt. However in euthymia, this ratio is practically very close to zero. The observations about this subject shows that as the suicide may be due to the ineffectiveness of the treatment, it may be also due to the intensity of the treatment. Like the other branches of medicine, in psychiatry, physicians must be aware of the iatrogenesis risk when prescribing potent drugs for depression to the patients with family history of suicidal behavior.
Case: We report the case of an 18 year-old female patient who was diagnosed with depression and prescribed antidepressant drugs. After 15 days, she went back to the psychiatrist for a follow-up examination. The psychiatrist increased the antidepressant dose and told the patient not to miss her follow-up examinations. After this appointment the patient didn't go to see the psychiatrist again and 4 months later she jumped from a high building. Family members made a complaint about the treatment of the psychiatrist. The case file was sent to the 1st Specialty Board of the Council of Forensic Medicine for an assessment of the malpractice claim.
Discussion: In this presentation, we discuss the key points, the physicians must be careful about, during the treatment and follow-up of depression diagnosed patients, if the antidepressant treatment can be blamed as a cause of suicidal behavior alone, the responsibilities of the physician and the family about the patient's follow-up and the effects of lack of follow-ups on the treatment of the patient.

PP-590

Sudden deaths due to aortic aneurysm dissections; (Qestions of Malpractice)

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Cardiovascular system-induced deaths constitute largest part of sudden unexpected deaths and they constitute important part of daily strivings of the judicial process. Aortic dissection occurs with rupture of the intimal layer of blood median middle and outer 2/3 'luxury reported to occur at the passage. This usually consists of the rising aorta and more are looking transvers. Aortic dissection is a life-threatening situation and characterized by sudden chest or low back pain. The disease is higher in men than in women and is often seen over the age of 50.
Case 1: 31-year-old male patient was 179 cm long and weighs 70–75 kgs and had back pain after sport, was brought to hospital, after the treatment was sent back, after a day at work, had back pain again, was taken to a private hospital again, was admitted to hospital as died, autopsy was performed, the inside of the pericardium filled with 400 cc of blood was seen partially coagulated, dissection was somewhere near to 5 cm of aortic knob and indicated 1 cm.
Case 2: 185 cm long and weighs 75 kgs 20 years old male patient died without a known disease. 3–4 days before he referenced State Hospital with the abdominal pain, tightness in the chest but he was sent home with giving medication for intestinal inflammation and after died at home, autopsy was performed, the inside of the pericardium filled with 700 cc of blood was seen partially coagulated, 8x5-centimeter area of ascending aorta dissection, the output from the heart of this area of 0.6 cm long, 3 cm away from the stated full-thickness tear was detected.
Case 3: 10-year-old, 136 tall, weighs 20–25 kgs, a male child had not a known disease, had back pain suddenly in the house garden around 17:30, was taken to hospital for treatment, and after prescribed gel and was given pills and pain killers for back pain, around 23:20 they returned home again, while child was sleeping they saw that the child's case, such as remittance, went to a private hospital but they said that child was died.

We identified three patients whom died after rupture of an aortic aneurysm were evaluated in terms of medical malpractice.

PP-591

Injury of the intra-abdominal organs following cardiopulmonary resuscitation: the importance of their exact nosography (origin) and medico-legal implications

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The importance of taking into account the possibility of intra-abdominal injuries, such as splenic rupture, gastric rupture and liver rupture, following cardiopulmonary resuscitation is well known.

We report a case of a 46-year-old woman with the diagnosis of "pancreatic cancer metastasizing to the liver and ovaries with peritoneal carcinosis". The prognosis was about six months, but the patient requested surgery even though she was aware that she could die. She underwent a bilateral ovariectomy and exeresis of neoplastic presigmoidal tissue. Approximately 5 hours later, she went into cardiac arrest and was resuscitated. Within 1 hour she had another cardiac arrest and died. The patient's family filed a lawsuit and a forensic autopsy was ordered by the Prosecutor. The major autopsy findings were: 200 cc of hematic fluid in the peritoneal cavity, small laceration on the anterior margin of the lower pole of the spleen, partial tear of the falciform ligament of the liver, pancreatic cancer, hepatic and pulmunary metastases. The medico-legal conclusions were the following: patient's death was caused by the laceration of the spleen and the falciform ligament; both lesions occurred during surgery; the surgeon negligently injured the patient during the laparoscopic exploring of the pancreas; he failed to adequately identify and treat the injuries. Consequently, the Prosecutor press charges against the doctors.

However, we believe that the cause of death was probably the neoplastic disease, also spreading to the lungs: the patient was not able to tolerate the. We believe that ovariectomy had been an uncomplicated procedure and that the small amount of hematic fluid found in the peritoneal cavity was due to the inevitable bleeding. We hypothesize that the small laceration of the spleen and of the falciform ligament could have been caused by mechanical resuscitation attempts (external cardiac massage) because the surgery did not involve, either directly or by proximity, the spleen and the falciform ligament. In fact, the autopsy revealed fracture of the sternum bone with hemorrhagic infiltration of intercostal muscles of the third and fourth rib.

Intra-abdominal injuries following cardiopulmonary resuscitation are not always directly related to the cause of death. This occurrence is particularly important in the legal medicine field because misinterpretations and wrong conclusions could lead to charges being brought to other fellow doctors who are in fact not guilty of any wrongdoing.

PP-592

Death under anesthesia: medical malpractice?

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The risks of fatal or life threatening events in patients who received general anesthesia are decreased during the last decades, nevertheless nowadays are not absent.

We report a case of a 6-year-old child with a history of chronic tonsillitis who underwent tonsillectomy. Preoperative exams revealed: sinus tachycardia, slight leukocytosis, minimally augmented C reactive

protein. The surgical intervention was performed under general anesthesia, inducted using sevoflurane. At the end of the tonsillectomy, a local hemorrhage required a further surgical intervention, preceded by propofol and sevoflurane administration. After controlling the hemorrhage, the child developed a sudden inotropic agents-resistant bradycardia. A prompt cardiopulmonary resuscitation allowed the heart to restart beating after about 10 minutes. Nevertheless, the boy entered coma and after few days died.

An autopsy was requested to understand the cause of the death and to evaluate the medical management of the case. The forensic doctor excluded this was a case of medical malpractice, nonetheless was unable to certainly identify the cause of the death; however he. As a consequence, the prosecutor ordered a second autopsy, performed by another forensic doctor. This exam established that the cause of the death was a cardiac arrest secondary to hypovolemia caused by the additional dose of anesthetics and enhanced by the post-operative hemorrhage. Because of these two contrasting conclusions, the Prosecutor required a third evaluation of the case. The histology revealed an hidden infective myocarditis etiologically related to the chronic tonsillitis and capable of causing the bradycardia.

Myocarditis is an inflammatory disease of the heart muscle frequently resulting from viral infections and/or post-viral immune-mediated responses. This pathology is characterized by diverse clinical presentations and by the lack of safe, accurate and non-invasive diagnostic tests, thus a preoperative diagnosis would have been very difficult. Furthermore, the pharmacological therapy resulted inefficient against the bradycardia affecting the already weakened myocardium. As a consequence the existence of a medical error in patient's healthcare can be excluded. This case emphasizes the importance of an accurate evaluation not only of the medical clinical history, but also of the autoptical and histological evidence. In fact, a misinterpretation of the data may lead the pathologist to a wrong diagnosis and, most importantly, a case of natural death can mutate in penal or civil liability for doctors.

PP-593

Malpractice in Surgery: analysis of verdicts of the Civil Court of Rome

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Introduction: Claims due to alleged malpractice increased steadily over the years and surgeons are at increased legal risk because of invasive therapeutic procedures.
Objective: the aim of this study is to analyze the civil causes of damage compensation for claims due to alleged malpractice in general surgery and to evaluate the results of the legal processes.
Materials-methods: we retrospectively analyzed the verdicts issued by the Civil Court of Rome in the period between 2001 to 2003, concerning medical professional liability cases related to General Surgery, focusing on the mini-invasive and abdominal surgery. The documentation is provided by the Observatory on Medical Liability (O.R.Me). We considered several parameters: number of legal actions, worker categories and surgical procedures mainly associated with cases of medical malpractice, informed consent and economic compensation of claims.
Results: Sixty-eight complaints were filled against general surgeons and 62 % of the rulings were accepted, 31 % were rejected and 7 % were partially accepted. Among the accepted and partially accepted verdicts, in 37 cases (77 %) the surgeons were condemned for surgical-therapeutic errors, in 10 cases (21 %) for clinical-diagnostic errors and in 1 cases (2 %) for both of them. The majority of legal actions were for elective surgery (88 %) and only 12 % were for urgent surgery. The subject most sued was the operating surgeon (62 % of cases) followed by the whole surgical equipe (13 % of cases). The equipe was sued in 9 judgments and only in 1 case it was acquitted. In particular, colorectal surgery was the most susceptible to claims (20 %), followed by abdominal wall surgery (16 %) and HPB surgery (14 %). Moreover a defect in informed consent was reported in 18 % of cases. Civil processes had an average length of 4,5 years and, in addition to procedure expenses, a total of 4.948.456,60 euros were spent on patient compensations.
Conclusions: the study showed that the general surgery is very susceptible to claims because of the invasive procedures; in fact the surgical-therapeutic errors were the most common reasons for claims. As evidenced by the average length of the legal processes, the Italian civil procedural system can not quickly resolve court cases, causing an increase in expenses for the sued subjects and for the insurance companies.

PP-594

Analysis of sleep profiles, alert and attention of intensivist physicians comparing to doctors who works in office

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Introduction and justification: Some doctors practice in personal clinics or medical offices, while others chose to work in shifts at public or large hospitals. The profession requires high degree of alertness and attention because they have to make conscious and effective decisions, often immediate. The medical act may be influenced by the doctor's state of humor and/or stress level. Given the importance of such decisions, the questions are: Whether the physiological and psychological state of the doctor influences the medical act? Does it depend on the medical area of expertise? Are there any significant changes in alertness and attention?
Objectives: To evaluate the possible occurrence of physiological and psychological changes in the physician that works in Intensive Care Unit (ICU): sleep, alertness, attention, mood states, blood pressure, and heart-rate. And to compare them with the same changes in the physician that works at medical clinics/ offices. Methods and material: A total of 40 physicians were divided into two groups: physicians of the ICU and those who practice in their own medical office. Both set of samples filled standardized questionnaires: Sleep Habits, emotional status, cancelling icon test and Stroop Color Word Test. Results analysis: The sleep habits revealed qualitative information about sleep. The emotional states were characterized by their prevalence in the beginning and end of shift. The levels of alertness and attention were measured by the errors and time taken for both the tests.
Conclusion: The results indicate a correlation between high workload and the level of alertness and attention of the physician. A further study and attention to this set of doctors is recommended.

PP-595

Analysis of 25 years of malpractice claims in Anaesthesia

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Background: Patient safety and professional liability are both important worldwide concerns. Anaesthesia deals with complex clinical situations and adverse events can result in serious injuries or fatal cases, therefore those events need to be thoroughly studied and claim analysis has been pointed as a useful tool.

Method: We aimed to identify the most important safety and liability areas at high risk in Anaesthesia. A total of 7535 malpractice claims handled by the Praxis Area of Barcelona's Official College of Physicians between 1986 and 2011 were analysed. The subgroup of files concerning Anaesthesia were reviewed and analysed.

Results: Between 1986 and 2011 we registered 7.535 malpractice claims (mean of 290 claims per year, minimum 89 claims in 1986 and maximum of 387 in 2003). Anaesthesia accounted for a 4,4 % of the total amount of claims during the study period (mean of 13 claims/year). 53 % of the procedures were related to private medicine (not the public National Health System). Most procedures were solved by the courts (62 % of claims – 35 % civil law, 65 % criminal law-) and out-of-court procedures accounted for the 38 %. In most cases (75.7 %), claims against anaesthesiologists were unsuccessful.

Most frequently reported basis of allegation were:

– Intubation techniques. Mainly dental damage (53 cases), with a low percentage of courts involvement (19 %) but with a high percentage of compensation payments (86 %).

– Anaesthetic techniques. 32 cases claiming peripheral nerve injury (72 % of court procedures, 26 % of compensation payment) y 30 cases of spinal cord injury (70 % of court procedures, 43 % of compensation payment).

– Anaesthetic induction. 59 cases of death (80 % of court procedures, 18 % compensation payments) and 23 cases of coma (65 % of court procedures and 44,4 % compensation payments).

Conclusions: Anaesthesia accounted for a 4,4 % of the total amount of claims, but professional liability was found to exist in only a 24.3 % of the claims. Percentage of compensation payments was remarkably high in "dental damage" category. Understanding these specific basic elements of medical malpractice in Anaesthesia may help the physicians to better manage the impact of malpractice concerns on their practice decisions and to improve patients' safety.

PP-596

Specialty scenario in malpractice, Barcelona, Spain

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Background: Patient safety and professional liability are important concerns nowadays. Jena et al. (NEJM, 2011)1 reported the 15-year results of a malpractice study using a professional liability insurer's claims database from the U.S. Authors' results match patterns reported in previous U.S. national studies2-3, but the analysis of the U.S. scenario may not represent a worldwide view of the subject. Spanish seem to be not so immerse in the malpractice crisis but its malpractice scenario remains largely unknown.

Methods: Using physician-level malpractice claims from a large professional liability insurer in Catalonia (24,063 physicians), we provide a glance into Spanish malpractice scenario among physician specialties. We included in the study every claim between 1986 and 2011, analysing a total amount of 7,535 claims.

Results: Traumatology and Orthopaedic Surgery, Obstetrics and Gynaecology, General Surgery and Plastic and Aesthetic Surgery were the most frequently claimed specialties. Across specialties, an average percentage of 16.8 % of claims ended up in professional liability. Plastic and Aesthetic Surgery accounted for the highest rate of compensation payments (29.3 %), followed by Angiology and Vascular Surgery (27.8 %), Oral and maxillofacial surgery (25.6 %), Pathology (23.8 %) and Neurosurgery (23.2 %).

Among those that resulted in an indemnity payment, Jena's study mean indemnity payment was $274,887, whilst ours was far lower (€70,337). Pediatrics, Anaesthetics, Neurosurgery and Obstetrics and Gynaecology had the higher average payments. As reported in Jena's sample Obstetrics and Gynaecology accounted for the most extreme awards, exceeding €700,000.

Conclusions: Frequency of claims, rate of payment, mean and maximum amount of compensation payment vary widely among specialties. We concur with the conclusions by Jena et al. that certain specialties, such as Obstetrics and Gynaecology, have both a high risk of claim and face high payments.

PP-597

Management of Patient Complaints and Medicolegal Consultation at the Memorial Healthcare Group

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Introduction and objective: The Patient Relations Department of Memorial Healthcare Group was first established in the year 2000 to address the requirements of the Patient Rights Regulation and provides an effective Patient Complaints Management service which is monitored by a dedicated automation system since 2009. The Patient Relations Management process has been designed based on ISO 10002, ISO 9001, and JCI hospital standards. Medicolegal Consultation has been included in the Patient Relations Management process in 2011 and Medical Malpractice Risk Management approach has been adopted. This study aims to evaluate the impact of Patient Complaints Management and Medicolegal Consultation process on patient rights and staff satisfaction.

Materials-method: Any data related to complaints filed at the Patient Relations Department between 2009 and 2011 were included in the analysis. The demographic data of the involved patients and the reasons of complaints were analyzed separately.

Results: The total number of complaints received since 2009 is 4411, 2932 of which are out- and 1473 of which are inpatients. 2520 complaints were filed by the patients and 1891 by the family members. The breakdown of the cases according to payers is as follows: Private Healthcare Insurance Companies and Banks 2732, self-payers 1177, the Turkish Social Security Institution (SGK) 357, and others 145. The total number of malpractice claim incidents by doctors/nurses/healthcare professionals is 335. Based on the results of our analysis, 1265 of the complaints that were filed appeared to be justified.

Conclusion: The complaints of dissatisfied patients provide useful tools for monitoring the effectiveness of medical care delivered in the private hospital. To facilitate responsiveness to individual complaints and to also capture valuable feedback information, a standardized approach is recommended. The complaints reported to the Patient Complaints Management Service could be used more effectively in health care and be regarded as important evidence when working with quality improvement. Also adverse events, patient complaints and potential litigation are among the most stressful events in a medical career. Providing management of patient complaints and medicolegal consultation system can help physicians faced with these challenges.

PP-598

The alleged malpractice cases among nurses and midwives in Turkey

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Objectives: It is aimed to describe the alleged malpractice cases among nurses and midwives as a function of malpractice type, prevalence, evaluation of faulty by The Supreme Council of Health.
Material-method: The Supreme Council of Health files between 2002–2008 which are related to alleged malpractice cases about nurses and midwives in Turkey are investigated. One of the researchers visited the Ministry of Health in Ankara with the written permission of both Marmara University Ethical Committee and the Ministry of Health. She investigated the related files and documented them in a classified manner. SPSS 16.0 executes statistical analysis.
Results: The total number of reviewed cases is 1392 and, 219 of those are related to nurses and midwives. Those 219 cases include 308 professionals. Alleged crimes in these cases as follow: %52.9 (n=163) is death due to malpractice, 22 % (n=68) is giving offence, 19.5 % (n=60) is breach of duty and 5.5 % (n=17) is professional misconduct. The reason of the allegations are 68.5 % (n=211) mistakes in standard patient care, 22.7 % (n=70) medication errors, 3.6 % (n=11) violation of patient safety, 1.6 % (n=5) errors in using health equipment and 3.6 % (n=11) errors in sending the patient to appropriate clinics. According to the Council 34.8 % (n=71) of the professionals are found faulty. While mistakes in standard patient care are widespread among nurses (55.5 %, n=10), in midwives the most frequent faulty are medication errors with 49 % (n=23). The most common medication error is IV injection (47.1 %, n=8).
Discussion: It is important to understand the types of malpractice among health care providers, because the implications of that kind of studies can be used to renew the health sciences curriculum. For nurses and midwives, the chance of being named in a malpractice lawsuit still remains relatively small. However, with the increased demands that have been placed on nurses and the number of adverse medical events that occur in the hospital setting, the risk clearly is increasing. Utilizing good nursing care and employing critical thinking will significantly decrease the likelihood of being named in a malpractice lawsuit. These skills combined with a good documentation technique are the best approach to use to avoid an adverse legal outcome in the event that a nurse is sued.

PP-599

Electrocombustio of the penis with inability of conceive functions due to improper circumcision

Svetlozar Spasov Spasov, Marin Kostadinov Baltov
Electrocombustio of the penis with inability of conceive functions due to improper circumcision

Background: In certain ethnic groups a circumcision is a common procedure done to young male children. When not performed properly it could lead to severe pathologies.
Method: We present a poster with pictures of the patient the apparatus and information from the medical documentation.
Results: We present a case of a healthy child 3.5 years of age with urinate disfunction. The patient undergone circumcision due to ethnic believes. This intervention was made not with a scalpel but with electrocouter. Because of accidentally touch of not isolated part of the pincette an elecrocombustion of the penis occur, followed by necrosis of part of the penis. The doctor responsible for the problem was prosecuted.
Conclusion: The wrong conclusion of the area of the surgical intervention, the wrong method used and the wrong currency lead to full loss of the penis and complete inability of conceive functions and miction disfunction.

PP-600

Evaluation Of The Medical Malpractice Cases Concluded In The General Assembly Of Council Of Forensic Medicine

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Background: Council of Forensic Medicine is the expert institution, officially recognized by the courts in Turkey. The General Assembly is the place where controversial cases sent for official medical expert opinion by the courts to give the final decision. All the clinical branch experts included in The General Assembly. In this study, controversial claims of medical malpractice cases were aimed to be evaluated.
Method: All files sent to the General Assembly of the Council of Forensic Medicine, between 2000 and 2010, were evaluated retrospectively with the descriptive and analytical methods, and the malpractice claims were included in the study, in 2011.
Results: 330 cases were evaluated in 11-year period;the average age of the cases was 28.9±2.1 (0–86; 28), respectively 12.7 % of the cases were under the age of one.The most frequently asked questions by the courts,were "whether or not there is an error (83 %); in more detail, whether or not the source of error is therapy, dose of the drug, improper performance of a treatment or a surgical procedure (11.5 %), and whether or not there is a causality between the damage occured and the healthcare services provided (7 %).

When the reasons of healthcare service applications leading to malpractice claim evaluated, 81.5 % of the cases were patients' individual applications for therapeutic purposes due to various complaints, 15.2 % of the applications were after an accident.The most common cause of applications resulting in a malpractice claim was related to Gynecology and Obstetrics (25.1 %), followed by traumatic injuries(17.3 %). In the malpractice claims, the most common injury claimed, was 'death' due to the improper performance of a procedure and negligence (39.7 %), followed by the nervous system injuries (12.1 %). In 85.1 % of the cases, physicians were the primary defendants (n=284).

According to the decisions of the General Assembly of the Council of Forensic Medicine, 33.3 % of the claims were regarded as 'medical malpractice'; 49.4 % of the claims resolved in favor of the healthcare empolyers and the system.In 17.2 % of the claims,some of the healthcare professionals were regarded to have an error or negligence, some regarded to have no error or negligence and some of the employers couldn't be evaluated and concluded by the General Assembly.
Conclusion: The significant increase in the malpractice claims that couldn't be evaluated and concluded by the courts, over the years shows the importance of the standardization of the professional medical practices and the forensic science(medical) practices.

PP-601

Iatrogenic Left Common Iliac Artery and Vein Perforation During Lumbar Discectomy

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Introduction: Iatrogenic vascular injury during lumbar disc surgery, although rare, is a serious complication, and when it does occur, can be sudden and life-threatening.
The case: A 52-year-old overweight man underwent an elective lumbar discectomy for rightward disc herniation in the L4-L5 intervertebral space. One hour after the end of surgery his blood pressure was 130/80 mmHg, HR: 90 bpm and SaO2 98 %. But 2 hours later the patient had a hypotensive episode associated to chest pain and a decreased oxygen saturation. The ECG did not show any acute cardiac pathologies and the most important hematochemical parameters were in the normal range.

Three hours after the operation for a new hypotensive episode and hemoglobin decrease (11 g/dl), the patient was transferred for emergency angioCT that revealed a large retroperitoneal hematoma resulting from the injury to the left common iliac artery.

Urgent laparotomy was performed; a large retroperitoneal hematoma was found and evacuated. A 10-cm tear of the left common iliac artery was identified.

There was another tear at the left common iliac vein, in the confluence with the vena cava, which was sutured with Prolene 4–0 and some metal clips. For the bad general conditions of the patient, they performed an arterial ligation of the stumps. Three hours after the end of laparotomy, for a worsening of general conditions, the patient died.
Results: The autopsy showed in the abdominal cavity a copious hematoma (1650 ml) and a large retroperitoneal hematoma in left renal loggia.

The common left iliac artery appeared interrupted in two stumps, sutured with blue thread; the left common iliac vein, in the confluence with the vena cava was sutured with Prolene 4–0 and there were some metal clips.

At the level of L4-L5 vertebrae, there was a laceration of the anterior longitudinal ligament and of the annulus fibrosus.
Discussion and conclusions: Intraoperative injury of the great vessels is the most serious intraoperative complication of lumbar discectomy and can be fatal. The mortality rates range from 40 to 100 %.

In our case, after an initial post-operative course quite regular, the first clinical manifestations started two hours later and despite the prompt diagnosis by CT and then laparotomy, this complication was fatal.

The event is considered a rare complication, unpredictable, and not entirely avoidable even by experienced surgeons. For the early diagnosis and treatment, although the fatal outcome, there were no profiles of professional responsibility.

PP-602

Physician's Liability Concerning Declaration of Legal Event who had Died: A Case Report

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Background: Deaths caused by hitting an animal are traumatic deaths, therefore these cases are forensic incidents. Health personel has a declaration liability of the forensic incidents according to the article 280 of the Turkish Penalty Code. Similarly, according to the article 159 of the Penalty Judgement Code, Turkey, if there is a doubt about the death occured from unnatural reasons, physician must declare this death to attorney generalship and in this situation the corpse can be buried by prosecutor's permission Therefore, physicians have declaration liability of forensic events/deaths to the attorney generalship in Turkey. However physicians can not perform this liability sometimes because of inexperience or lack of education. Studies performed in Turkey showed that physicians haven't got enough knowledge about their legal liability. In the study, it is aimed to present a physician case, who was treating a case hitted by a cow and arranged to her a burial certificate following her death without decleration this case to the attorney generalship, thus paying attention to the physician's liability concerning declaration of legal event.
Case: A 62-year-old woman case was hitted by her cow during a motor vehicle accident which was walking near to her. Then she was brought to the hospital. Subarachnoidal hemorrhage, basis-cranium fracture, pneumocephalus, L1-vertebra burst fractur, pelvic fracture were determined in CTs. After an operation for pelvic fracture, her follow and theraphy had gone ahead in intensive care unit. Although all of the treatment, she had died in 8th day of the event. At the same day, her physician had arranged to her a burial certificate then she had been buried. In the following days, the prosecuter has wanted the the physician to arrange medico-legal report for the victim. When the prosecuter has learnt that the victim had died and buried, s/he has started an inquiry concerning the physician. He has told in his statement that because the case was injuried by the cow, hence her injury was not from a traffic accident, he didn't declare it. Legal and medical docements were investigated in the First Speciality Board of Forensic Medicine, Ministry of Justice and it was concluded that the case's death was due to trauma so it must be declared to the attorney generalship. Because the physician had arranged the burial certificate, he was faulty.
Conclusion: Regular education program for the physicians concerning their legal liabilities is necessary and useful for prevent such legal falses.

PP-603

Quelles nouveautés en matière de responsabilité de l'obstétricien face à une paralysie obstétricale du plexus brachial

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La responsabilité de l'obstétricien a-t-elle était injustement était retenue dans certaines affaires de responsabilité où la disproportion foeto-pelvienne était évidente ?

La réponse à cette question est malheureusement oui, puisque de nouveaux facteurs indépendants de l'obstétricien ont été individualisés.

Quels sont ces nouveautés, y-a-t-il des moyens pour les prévenir où est-ce tout simplement un aléa imprévisible de l'accouchement?

PP-604

Two Malpractice Cases On Tubal Ligation

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There has been an increase in the number of files suited for the malpractice claim in Turkey recently. The most of the malpractice suits

are related to obstetricians and gynecologists. Council of Forensic Medicine (ATK) is the supreme expertize on malpractice cases in Turkey. It is appointed to deliver an opinion on the files which are sent by the courts. One of the six boards of ATK, the third specialization board presents opinion on the malpractice files.

Case 1: A pregnant woman, who was born in 1972, had a ceasarean operation and a tubal ligation by her on own will. However, the patient got pregnant again and had an abortion. The patient suited the doctor because of her pregnancy in spite of the tubal ligation. On this case, ATK 3rd specialization board accepted that the pregnancy in spite of tubal ligation was a complication and found the doctor inculpable, and presented this dictum to the court.

Case 2: A woman, who was born in 1978, made an agreement with a doctor to have a tubal ligation in the course of her ceasarean operation. The tubal ligation was recorded in the operation notes. But the patient discovered that she become pregnant again after 8 months. The patient did not want an abortion and gave birth to a living baby with a ceasarean operation. Then suited the doctor. In this case, ATK 3rd specialization board found the doctor culpable because of the fact that the tubal ligation was not carried out in the course of the operation.

Conclusion: The number of malpractice suits has been increasing in Turkey. Medical doctors should be aware the ways of defending themselves. Emphasis on caution and care in the patient-doctor relationships would extenuate the malpractice cases. Determination of nursing standards and administration of disclosure requirements are the other factors which would extenuate the number of legal problems between the patient and doctors.

PP-605

Large Vessel Injury Following Lumbar Disc Surgery

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Introduction: Large vessels are adjacent to the vertebrae anatomically. Operations for herniated lumbar discs have been frequently performed in clinical practice for many years. Life-threatening major vascular injuries may occur in operations for herniated lumbar discs, fortunately they are rarely encountered.

Case: Our case was a 37-year-old male patient who was diagnosed as disc herniation at the L4-5 level and was operated at another center. It was learnt that 2 hours after the operation he had developed progressive hypotension and tachycardia and detected retroperitoneal hematoma in abdomen USG. Because of the suspicion of vascular injury he was transferred to our hospital. Our surgical intervention revealed the left iliac artery injury. The graft was replaced to the left iliac artery. The anticoagulant therapy was initiated. He was discharged 7 days later with life-long anticoagulant therapy and received physical therapy program.

Conclusion: We aimed to present a surgical life-threatening malpractice case who needs to take life-long anticoagulant therapy after the surgery. Clinical medicine doesn't only consist of therapeutic aspects, but also forensic medicine involving malpractice. Physical and mental damage or death can occur in cases following medical malpractice. Economic loss associated with the treatment due to malpractice is another challenge.

MISSING PERSONS

PP-606

Racial and Ethnic Differences among Persons Classified as Missing-Unknown

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Background: Researchers are investigating how social and demographic factors that may influence how the police classify missing persons reports. The race/ethnicity of missing persons may influence whether their missing persons reports are classified as unknown.

Method: The present investigation is part of the Missing Persons Project, which is based on a random sample of 930 missing-persons reports that were filed between 1991 and 2010 and published on the North American Missing Persons Network and the National Center for Missing and Exploited Children websites. This investigation tests the null hypothesis that the missing persons' race/ethnicity is not related to whether the missing persons reports are classified as missing-unknown. Each missing-person report was coded using a protocol that contains 291 variables. The coded data were entered into a data file and Chi-Square and correlational analysis was then performed using Systat 9 for Windows program (1999).

Results: The null hypothesis was rejected. Missing whites (22.6 %) and missing African-American (17.7 %) were more likely than missing Hispanics (11.5 %) to be classified as missing-unknown (Chi-Square= 18.76, df=6, $p<.005$). These results remained statistically significant after controlling for possible intervening factors, such as the missing person's gender.

Conclusion: This study assesses the implications of these racial/ethnic differences for law enforcement policies and procedures.

PP-607

The Control Region Data of Mitochondrial DNA in Chinese Population in Sichuan Province of China

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Background: Forensic mitochondrial DNA (mtDNA) analysis was a complementary technique to forensic nuclear DNA and trace evidence analysis. Many studies dealing with the control region (CR) polymorphisms of mtDNA were published, most of which focused on the first two hypervariable segments, whereas there was yet another section also including notable variation. There was a lack of mtDNA data in Chinese population in Sichuan province, China. Analysis of mtDNA in this study was to cover the entire control region of mtDNA in a Chinese population sample in Sichuan province, China.

Method: The blood samples were collected from 200 unrelated individuals residing in Sichuan province, China. The mtDNA was extracted by alkaline lysis with SDS method, which was proved to be convenient, effective and highly productive. Two pairs of PCR primer were designed for amplification of the CR with 1122 bp. There was a small overlap between the two amplicons, which might help the sequence assembling. The PCR products were purified for sequencing. Sequencing reactions were carried out using the amplification primers as sequencing primers. PCR products were sequenced on both strands, thus each CR position was covered twice. Proper contamination prevention and quality assurance procedures were applied. Software-assisted basecalling and alignment to the revised version of Cambridge Reference Sequence

were accompanied by a thorough visual inspection of sequence traces.
Results: Sequence alignment showed that more than 160 haplotypes were found, among which more than 140 haplotypes were unique, while the other 20 haplotypes were shared by two or more individuals. Genetic diversity (GD) was estimated to be 0.998.
Conclusion: The fact that the region between hypervariable segments also had many polymorphic sites demonstrated that it was worthwhile to analyze the entire control region, including non-HV sequences. The screening method for the control region of mtDNA presented here provided a reliable and cost-effective supplementary technique for routine applications, especially forensic database study. This study provided a sound basis for forensic casework and the data can well supplement the Chinese mtDNA database.

PP-608

Identification of a Burned Man

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Background: In forensic cases, it is very important to identify victims as soon as possible. Fingerprinting and DNA analysis are effective methods in forensic identification. These methods are useful if comparative informations are available. It is difficult to identify highly damaged or decomposed bodies by fingerprinting. So, DNA analysis plays much more important role in identification of victims.
Case: Five person died in a burning vehicle. Their corpses were unrecognizable. Biological samples of their relatives were examined for identification.
Methods: DNA was isolated from blood samples of victims by using QIAmp® DNA Mini Kit and Qiagen Biorobot EZ1 workstation with the EZ1 DNA Blood Kit. PCR amplification of 15 STR loci was performed by using AmpFlSTR® Identifiler® PCR Amplification Kit. The amplified products were genotyped on ABI 3130 xl Genetic Analyzer.
Results: Autosomal STR and gonosomal Y-STR DNA profiles of four corpses were compared with their relatives and positive results were detected. But the fifth corpse (13, 29) was not matched with the alleged brother (14, 30) in two Y-STR loci (DYS389-I, DYS389-II). Then we studied the biological samples of his mother and second brother. The resulting Y-STR DNA profiles of two brothers were the same (14, 30). But we saw allele transition of 15 autosomal STR loci from biological mother to two brothers and fifth corpse. Since the absence of the biological father, we couldn't be sure about that it was a mutation or not.
Conclusion: To avoid longer processes in identification studies, especially biological mother, father or child should be preferred for DNA comparisons. Only brother or sister is not enough for exact identification.

PP-609

Gender Differences among Individuals Classified as Missing-Unknown in Missing-Person Reports

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Researchers are analyzing the role of demographic, social, and behavioral factors that may influence how law enforcement professionals classify missing-persons reports. The gender of missing persons may influence whether their missing-persons reports are classified as missing-unknown, which means that law enforcement does not know the circumstances of the case. The present investigation is part of the Missing Persons Project, which is based on a random sample of 997 missing-persons reports that were filed between 1991 and 2004 and published on the North American Missing Persons Network and the National Center for Missing and Exploited Children websites. This investigation tests the null hypothesis that the missing persons' gender is not associated with whether their missing-persons reports are classified as missing-unknown. Each missing-person report was coded using a protocol that contains 291 variables. The coded data were entered into a data file and Chi-Square and logistic regression were then performed using Systat 9 for Windows program (1999). The null hypothesis was rejected. Missing males (19.7 %) were more likely than missing females (13.8 %) to be classified as missing-unknown (Chi-Square=6.21, df=1, $p<.01$). These results remained statistically significant after controlling for possible intervening factors, such as the missing person's race. This study assesses the implications of these gender differences for law enforcement policies and procedures.

MOLECULAR PATHOLOGY

PP-610

Association of serotonin 1A receptor gene polymorphism with completed suicide in Iranian population

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Objectives: Serotonin systems appear to play a key role in the pathophysiology of suicidal behavior. Many Studies have examined the association between a functional polymorphism of the serotonin receptor gene promoter (5-HT1A-1019 C>G) and Suicide but have yielded inconsistent results. In the present study, we aimed to assess the association between this polymorphism and Suicide in the Iranian population.
Methods: In our study we analyzed promoter polymorphism -1019 C>G on 250 suicide victims and 150 unrelated age- and sex-matched healthy control subjects by polymerase chain reaction (PCR) and restriction fragment length polymorphism (RFLP).
Results: There was no statistically significant difference in the genotype distributions or allelic frequency, in the serotonergic polymorphism between suicide victims and normal controls ($p>0.05$).
Conclusions: We concluded that this polymorphism maybe not associated with susceptibility to suicidal behavior. More work is needed to replicate these findings. Our future studies aim at identifying other genetic associations.

PP-611

Forensic pathological study on dynamics of intrathrombus IFN-γ for age determination of intravenous thrombi

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Background: Deep vein thrombosis (DVT) is a major cause of pulmonary thromboembolism, a leading cause of death in DVT patients. Several lines of evidence indicate proinflammatory cytokines, growth

factors and proteinases are involved in thrombus formation and resolution, In the present study, we tried to find out the dynamics of intrathrombotic IFN-γ, VEGF, MMP-2, and MMP-9 and established the histopathological markers for the age estimation of venous thrombi using the murine model with stasis-induced DVT.
Methods: Male BALB/c mice were anesthetized by pentobarbital (50 mg/kg, i.p.) and, via a laparotomy, the inferior vena cava (IVC) was ligated with 3–0 silk suture. From 1 to 21 days after the IVC ligation, the IVCs were harvested, and subjected to histopathological analysis, immunohistochemical analysis and a double-color immunofluorescence analysis (n=5 per group). In the separate set of experiments, the intrathrombotic gene expression of Ifng, Mmp2, Mmp9 and Vegf was analyzed by real-time RT-PCR (n=5 per group).
Results: Intrathrombotic Ifng mRNA could be detected in thrombi and its expression was elevated progressively as thrombi aged. Moreover, double-color immunofluorescence analyses detected IFN-γ mainly in F4/80-positive macrophages. Immunohistochemically, F4/80-positive macrophages could be detected in the whole course of thrombi after IVC ligation. Similarly, intrathrombotic MMP-2- and MMP-9-positive cells were observed during the whole course of thrombi, and they also could be detected in the F4/80-positive macrophages on double-color immunofluorescence analyses. Intrathrombotic recanalization was presumed to be essential for thrombus resolution. The number of intrathrombotic von Willebrand factor-positive channels was increased progressively as thrombi aged. The Mmp2, Mmp9 and Vegf mRNA was consistently detected in the 3- to 14-day-old thrombi. The peak of Mmp9 gene expression was at 10 days, whereas the gene expression of Mmp2 and Vegf was elevated progressively as thrombi aged.
Conclusion: In our previous study, the activation of the IFN-γ/Stat1 signal pathway suppressed PMA-induced Mmp9 and Vegf gene expression in peritoneal macrophages. Indeed, IFN-γ protein was immunohistochemically detected in venous thrombi obtained from human autopsy cases. These observations demonstrated that the dynamics of intrathrombotic IFN-γ would be applicable for thrombus age determination.

PP-612

Pathophysiological role of TNF-Rp55 on murine deep vein thrombosis model

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Background: Deep vein thrombosis (DVT) is one of the major causes in pulmonary thromboembolism from both clinical and forensic aspects. We explored the pathophysiological roles of TNF-α-TNF-Rp55 axis in the formation and resolution of venous thrombi using murine model with DVT.
Methods: WT and Tnfrp55−/− mice (8- to 10-wk-old) were anesthetized with pentobarbital (50 mg/kg, i.p.) and, via a laparotomy, the inferior vena cava (IVC) was ligated with 3–0 silk suture. At 1, 3, 5, 7, 10, 14 and 21 days after the IVC ligation, mice were euthanized and thrombi with vessel walls were harvested, and subjected to further analyses (n=5 per group). The numbers of intrathrombotic neutrophils, macrophages, MMP-2 and MMP-9 were immunohistochemically examined and enumerated. In the separate set of experiments, the intrathrombotic gene expression of MMP-2, MMP-9 and fibrinolytic factors was analyzed from thrombi by real-time RT-PCR. Moreover, the blood flow within and around the thrombosed IVC was investigated by the laser tissue blood flow meter. We performed in vitro analysis to validate these results. We harvested the intraperitoneal macrophages of WT and Tnfrp55−/− mice. And the cells were stimulated with TNF-α (500 U/ml) for 24 hours, the cells were subjected to real-time RT-PCR.
Results: Upon the IVC ligation in WT mice, venous thrombi developed progressively until 5 days, and remained similar sizes at 10 days. Concomitantly, intrathrombotic TNF-α contents were elevated progressively with an increase of post-ligation intervals. When Tnfrp55 −/− mice were treated in the same manner, thrombus size was similar to that in WT mice until 5 days after the IVC ligation, but it was apparently larger at 10 and 14 days, compared with WT mice. The gene expression of MMP-2 and MMP-9 was lower in Tnfrp55−/− mice than in WT mice. There were no significant differences in number of F4/80-positive macrophages and MPO-positive neutrophils between WT and Tnfrp55−/− mice. We examined the effects of TNF-α on gene expression of Mmp2 and Mmp9 in WT and Tnfrp55−/− mouse-derived intraperitoneal macrophages. Subsequently, TNF-α significantly enhanced the gene expression of Mmp2 and Mmp9 in WT mouse-derived peritoneal macrophages.
Conclusion: The absence of TNF-Rp55 have a detrimental role in the thrombus resolution by suppressing MMP-2 and MMP-9 expression, and TNF-α-TNF-Rp55 axis may be a good molecular target for the treatment of DVT. The present study also demonstrated that the pathophysiological detection of TNF-α-TNF-Rp55 axis was useful for estimation of venous thrombus age.

PP-613

The proteome in mouse skeletal muscle after repeated alcohol administration

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Introduction: Alcohol is one of the most widely used drug substances in the world. Repeated administration of alcohol causes various physical or mental disturbances. There are many reports concerning skeletal muscle impairments related to alcohol, such as striated muscle dissolution and muscle atrophy. Although the mechanism of the relation between alcohol and the muscular diseases has not been cleared yet, it is suspected that repeated administration of alcohol might change some specific proteins in skeletal muscle. So, we investigated the proteome in the skeletal muscle after the repeated alcohol administration in mouse.
Materials and methods: Mouse was treated with 3.5 g/kg ethanol (n=4), and saline as control (n=4), once daily for 4 weeks. The iliopsoas muscle was collected at 24 hours after the final injection, and protein was extracted. The samples were labeled with fluorescent dye Cy3, and each was added to the all mixed samples labeled Cy5, as reference with CyDye DIGE Fluor Labeling kit for Scarce Samples. Both were applied for two-dimensional electrophoresis (pH 4–7, 18 cm IEF and 20 cm length 12 % SDS-PAGE), and then the spots in alcohol group were compared with those in control using DeCyder 2D Software ver 7.0.
Results and discussion: In all samples, over about 1850 spots could be detected with the software. After comparing these spots of the two groups, the density of 2 spots increased in only alcohol treatment, and the calculated ratio with the software of the average density of the spots were 1.67 and 1.14 times compared with those of the control. On the other hand, those of 4 spots decreased and the densities were −1.40, -1.24, -1.23, and −1.22. Our results suggested that the repeated alcohol administration might change the expression of protein in skeletal muscle. We intended to identify these proteins

and clarify the patho-physiology about muscle disturbance after repeated alcohol administration.

PP-614

Expression of Sstr4 and Stx11 in mouse pituitary after chronic stress treatment

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Introduction: Recently, death from overwork has been paid a great deal of attention as one of the serious society problems in Japan. The people who died from overwork must suffer from chronic stress. It is important to diagnose chronic stress to demonstrate the death from overwork in forensic practice. Unfortunately, forensic pathologists did not have any useful tool or maker to do it. Although stress induces glucocorticoid (Gc) secretion from adrenal glands, there is huge variance in blood of dead body due to the stress of agonal stage, and the hormone could not be available for forensic practice.

We already reported that the Somatostatin receptor 4 (Sstr4) and Syntaxin 11 (Stx11) increased after high-dose Gc treatment in pituitary adenoma cell (Kwashima et al. 2010). We assumed that these mRNA might increase after long-term stress, as chronic stress must be high Gc state. So, we investigated the both mRNA expression after chronic stress in mouse pituitary.

Materials and methods: The restraint to mice was utilized as stress model. The mice were treated only once as single, or once a day for one week as chronic. No restriction were employed as control. They were euthanized at 60 min after the final treatment and pituitary was collected. The level of Sstr4 and Stx11 mRNA from the gland were measured with q-PCR method.

Results and discussion: There was no significant difference of Stx11 with single and chronic treatment between the stress treatment and control. On the other hand, Sstr4 showed the significantly increase after the chronic treatment but not with the single. We considered that Sstr4 might increase expression by chronic stress.

So, we concluded that the evaluation of Sstr4 mRNA might be useful to diagnose the chronic stress for forensic practice.

PP-615

FAS ligand expression in mouse skeletal muscle, spleen and thymus of mouse after chlorpromazine

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Introduction: Chlorpromazine (CPZ) is widely used as anti psychotic drug. CPZ might lead to neuroleptic malignant syndrome (NMS) as side effect. NMS manifests muscle weakness, rigidity and rhabdomyolysis to death. As almost all studies about NMS aimed at brain, there were few studies about skeletal muscle where the disturbance occurred at NMS. We already reported that FAS, which induced apoptosis, expression changed after single CPZ administration but not at 4 weeks treatment in skeletal muscle. The cascade to apoptosis via FAS was activated after FAS ligand bound to FAS. FAS ligand expressed on mainly lymphocyte. The aim of this study was to investigate the mRNA expression of FAS ligand in skeletal muscle, spleen and thymus of mouse.

Materials and methods: Mice were administrated with 7.5 mg/kg CPZ and euthanized at 0, 2, 4, 12 or 24 hour later. Saline was used as control. RNA was extracted from iliopsoas muscle, thymus and spleen. We examined the mRNA level with quantitative real-time PCR (q-PCR).

Results and discussions: FAS ligand expression in spleen significantly elevated at 2 and 4 hour, on the other hand the expression in thymus elevated from 2 to 24 hour after CPZ administration. There were no increases in iliopsoas muscle at any time. Our results clearly suggested that the strong inducer of apoptosis, FAS ligand, must increase immune organ including spleen and thymus. A lot of lymphocytes exist in spleen and thymus and FAS ligand mainly expresses on the lymphocyte surface. So we assumed that the cells expressed FAS ligand at early stage after CPZ administration. In addition, we previously reported that the expression of FAS elevated on iliopsoas muscle and heart from 2 to 12 hour after CPZ administration. Thus, CPZ administration could affect not only muscle but also immune system, and apoptosis might happen in various organs. Next step, we will clarify the protein expression of FAS and FAS ligand and demonstrate the morphological apoptosis in various organ.

PP-616

Expression of Ucp1, Pgc1α, Creb3 and Dio2 in the brown adipose tissue in a rat model of fatal hypothermia with alcohol

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Introduction: Diagnosis of fatal hypothermia is considered to be difficult in forensic practice because of the lack of any specific pathological findings. The mechanism that induces abnormal behavior such as undressing or hiding during the state of hypothermia has not been clarified. Additionally, alcohol is frequently detected in blood of the case of hypothermia. In order to examine pathophysiology of fatal hypothermia and influence of alcohol on fatal hypothermia, we constructed a rat model of fatal hypothermia with alcohol, and investigated the expression of Uncoupling protein 1 (Ucp1), Peroxisome-proliferator-activated receptor γ coactivator 1α (Pgc1α), cAMP responsive element binding protein 3 (Creb3) and Deiodinase, iodothyronine, type II (Dio2) in the interscapular brown adipose tissue (BAT), which plays major role in cold-induced thermogenesis in rodent.

Materials and methods: Rats were oral administrated with 20 % alcohol (3 g/kg) or water as control (n=7). After administration, rats were immediately treated on ice at cold room (4°C) or room temperature (22-24°C) as control. We regarded the cold exposed rat with alcohol as a model of fatal hypothermia. The rat belonging to cold without alcohol, room temperature with or without alcohol, was euthanized at the time from the alcohol administration to death of the cold exposed rat. Total RNA was extracted from BAT and measured using real-time quantitative reverse transcription PCR.

Results and discussions: Surprisingly, the expression of Pgc1α and Dio2 were significantly increased under the conditions of only cold exposure with or without alcohol, not did at room temperature with both treatments. The expression of Ucp1 was significantly increased under the condition of alcohol administration at room temperature compared to the conditions of cold exposure with or without alcohol

and water administration at room temperature. Dio2 is expressed by brown adipocytes in order to make thyroid hormone the activate metabolism of BAT. Ucp1 expression depends on activation of Pgc1α and Creb3, which are transcription factors at the upstream of Ucp1. However, our findings suggested that the expression of Ucp1 must not follow after the Pgc1α elevation. In conclusion, our study implicated that Pgc1α and Dio2 had possibilities to be the diagnostic marker of hypothermia.

PP-617

The investigation of microRNA-21 expression in Viral myocarditis and forensic applications

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Viral myocarditis(VMC), known as one of the most common cardiovascular diseases, is a serious threat to people's lives and health, and causes a high rate of sudden unexpected death especially among young people. Problem is that some atypical death cases caused by VMC have no clear clinical symptoms and histopathological manifestation as well as comprehensive examination records, and thus an objective and detective indicator is necessary and demanding. Based on our many years of research in this subject caused by sudden death, we make the VMC models and through the production of primary cardiac cell culture, we investigated miR-21 expression and its potential role in the mice model of viral myocarditis(VMC). The expression level of miR-21 and its target gene SPRY was measured by realtime PCR and western blotting, respectively. The miR-21 expression levels were significantly increased in cardiac myocytes from VMC compared to control samples (relative expression: 10±2.5 vs. 31±7.6, $P<0.05$). Among the target genes of miR-21, SPRY1 protein expression was significantly reduced in VMC mice while there was no significant difference in the its mRNA levels in the study groups. Our results revealed an inverse correlation of expression between miR-21 and SPRY1 protein in VMC samples. The identical potential binding site was found for mouse miR-21 and SPRY 3'-untranslated region. Moreover, overexpression of miR-21 in myocardial cells was accompanied by a selective decrease in expression of the protein SPRY1, but without changing its transcript level. Together, our results indicate that miR-21 is involved in VMC by post-transcriptional repression of SPRY1, which will help enrich our cardiovascular physiology and pathophysiology of understanding of the mechanism of sudden cardiac death caused by VMC.

PP-618

Effects of wound on circadian rhythm of skin tissue

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Background: Wound examination is one of the most important tasks for forensic pathologists. The evaluation of relationship between wounds and death, and wound age estimation are essential for forensic practice. Basic biological knowledge of skin tissue seems to be very important for accurate diagnosis of skin wounds. Recent studies on biological clock in mammal show that biological clock exists in most tissues and is involved in their homeostasis. However, biological clock in skin tissue is still to be investigated. In this study, we clarified biological clock in intact and wounded skin tissue.
Method: All mice were bred and housed at a constant temperature (23±2°C), with a 12-hr light/dark cycle (light on at 8:00 and off at 20:00). For control skin tissue samples, mice were anesthetized at interval of 2 hr (0:00 to 22:00) with i.p. administration of pentobarbital. After shaving and cleaning with 70 % ethanol, the dorsal skin was picked up at the midline and punched through 2 layers of skin with a sterile disposable biopsy punch (4 mm diameter), and the collected skin tissues were subjected to gene and protein expression analysis with RT-PCR and western blotting, respectively. For wound tissue samples, skin tissues around the initial wound were collected with biopsy punch (8 mm diameter) at 0.5-24 hr after wounding.
Results: Significant circadian expression of clock genes (Per1, Per2, Bmal1 and Rev-Erb 1 alpha) was observed in control skin tissue, which was essentially consistent with clock gene expression pattern in the kidney, liver and heart previously reported by us. Circadian protein expression of LC3-II, a marker of autophagosome formation, and sequestosome-1 (P62), a protein degraded by autophagy, was also observed in the skin tissue, indicating that autophagy exhibits circadian rhythm in the skin tissue. In the wounded skin tissue, circadian clock gene expression was significantly attenuated, however, still oscillated in low amplitude, which was observed 3 hr after wounding. LC3-II protein expression was significantly reduced in the wounded skin tissue. In contrast to LC3-II, P62 and HO-1 protein levels were significantly increased 3 hr after wounding.
Conclusion: Skin tissue exhibit robust circadian rhythm. Wounding has significant effects on circadian clock in the skin tissue. It may possible to estimate time of death by clock gene expression in the intact skin tissue. Moreover, changes of the molecules regulated by circadian may contribute to wound age estimation.

PP-619

Identification Of The Structural Proteins In Active GABA NEUROTRANSMITTER (CNS Drugs) By Bioinformatics Models

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GABA (Gama Amino Butyric Acid) is the major inhibitory amino acid s transmitter of the human central nervous system which is present in construction of the Cerebral Cortex, hippocampus, thalamus, and basal ganglia. GABA has an important role in physiological activity of human body such as memory, phobia, pain, sleep and stress.

Benzodiazepines and other many CNS Drugs are believed to bind to GABA receptors and enhance GABA induced ion currents. The neuronal inhibition usually happen cause of the effect of GABA on the serotonin system. In presence of benzodiazepines or sedatives the inhibitory reaction of GABA efficiently increases. Overall researches show that the abuse of these drugs increases the violence and aggression. But some of the drug's effects studies have shown conflict results. In the present paper author tried Bioinformatics Models to identify activated GABA which leads to test weather person is intoxicated.

Dis-inhibition, anxiety or self hetero aggressive and forensic acts were observed in patients with different vulnerabilities. However, role of the borderline and anxious personality, influence in control of GABA on the serotonin system.

Researchers believes that the role of borderline personality, influence control of GABA on the serotonin system and the impact of alcohol. Through the molecular structure and activity, GABA was divided to 2 main sets (GABAA and GABAB) which are significant on pharmacology and electrophysiology. To identify

the main protein attributes represent in each group (GABAA and GABAB) various clustering, screening, decision tree and support vector machine models applied to dataset of 177 GABAA and 44 GABAB attributes for 221 total protein). The results demonstrated that the frequency of CysAsp was the most important feature (selected by 80 % of attribute weighting model). Random Forest tree induction algorithm gained the highest accuracy (96.40 %) for decision tree parallel Gini index.

PP-620

Y- STRs and AZF Microdeletions in Clinical Context Samples

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Background: Forensic geneticists use several Y-STR PCR amplification kits, useful in forensic identification and ancestry/genealogies studies. The Y-chromosome regions with forensic interest include the set of 16 loci defined in the Y-Chromosome Haplotype Reference Database. Nevertheless Y chromosome is connected to male infertility and microdeletions are the most common cause of genetic origin male infertility. Y-chromosome Azoospermic Factor (AZF) region study is one of the strategies to diagnose it. This study aimed to characterize the AZF region microdeletions by Y-STRs and STS studies and its possible impact in forensic casework.
Method: Selected samples from fifty-two patients studied for male infertility, collected under informed consent, were characterized at molecular level with specific STS for the presence/absence of the three AZF regions: AZFa – DFFRY3, DBY; AZFb – sY1227, sY1224, sY134, sY119, sY134, RBMY1, sY143; AZFc – sY1192, sY254, RRM3, sY1291, sY283, sY1201. AmpF⁄STR® Yfiler® kit was used to obtain a 16 Y-STR profile.
Results: All samples were concordant in forensic and molecular studies, although with different scenarios: a) a normal Y-STR profile and no deletion with STS in the AZF region were revealed in about 32 % of the studied samples; b) the majority of samples, about 51 %, revealed also a normal Y-STR profile, but with a complete or partial deletion(1 or 2 STS) in the AZFc region; c) deletion in DYS385, DYS392, DYS448 and in AZFb+AZFc were detected in 3 samples. Four samples have the following different scenarios: d) deletion in DYS385, DYS392, DYS448 and in AZFb; e) deletion in DYS390, DYS391, DYS392, DYS385, DYS438, DYS439, DYS458, DYS635 and in AZFa; f) deletion in DYS448, in STS sY1197 and in AZFc; g) deletion in DYS390, DYS392, DYS385, DYS448, GATAH4 and in AZFb+AZFc region. All Y-STRs studied for forensic casework are localized, essentially, in the AZFa or AZFb regions, although DYS448 is located in the distal AZFb region and DYS390 and GATAH4 are localized between AZFa and AZFb regions. Deletion in the AZFc region does not affect results in forensics.
Conclusion: The knowledge of Y-chromossome microdeletions is important in Forensic Genetics as this can be encountered in current casework without possibility to perform clinical studies. So, it is crucial to know how to interpret the results obtained in Y-STR microdeletions samples, according to Y-chromossome structural alterations. As Y-STRs used in Forensic Genetic Laboratories are located in the AZF region, associated to male infertility, this can raise some ethical problems in Forensics.

PP-621

The frequencies of clinically important alleles of CYP2D6 gene in a Turkish population

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CYP2D6 is a polymorphic genetic site, responsible for the metabolism of several important drugs in clinical use. The genetic polymorphism at this site influences the expression and function of the CYP2D6 protein and its enzyme activity. These changes may result in its ability to metabolize drugs that can lead to severe toxicity or therapeutic failure. In forensic medicine, it is important to examine postmortem CYP2D6 allele heterogeneity in relation to the drugs responsible for fatal poisoning cases to discriminate them as accidental or undetermined.

CYP2D6 activity can be predicted by genotyping the most common CYP2D6 alleles. Regional differences in the frequency of CYP2D6 genetic variants leading to population-specific drug metabolizing enzyme activity patterns are observed.

The aim of this work is to describe the distribution of the some genetic polymorphisms of CYP2D6 responsible for poor metabolizer (PM), intermediate metabolizer (IM) and ultra rapid metabolizers (UM) genotypes in a Turkish population.

We analyzed allele and genotype frequency distribution of CYP2D6*3, *4, *5, *6 and *10 variants of 100 unrelated healthy individuals by using TaqMan Drug Metabolism Genotyping Assay and TaqMan Copy Number Assay in Taq Man Real-Time PCR.

The allele frequencies for CYP2D6*3 (A2549del), *4(G1846A), *6 (T1707del) and *10 (C100T) were 1 %, 10 %, 2.5 % and 14.5 % respectively, while allele frequency of CYP2D6*5 (whole deletion of the gene) was found in 3 % of the subjects tested.

In this study with 100 subjects, EM genotype frequency (all genotypes not showing any of the mutations of interest were classified as EM) was found 63 %. Among the remaining 37 subjects, total PM genotype frequency was found 4 %, while IM genotype frequency was found 12 %. CYP2D6 gene duplication was found 4 % in this study.

Our results show that the frequencies of the common defective allelic variants and gene duplication of CYP2D6 in Turkish populations are similar to those reported for several other Turkish populations living in different cities (such as Bursa, Ankara, Istanbul) and some European Caucasian populations.

In conclusion, 4 % Turkish people who have two nonfunctional defective allele causing PM phenotypes is a high risk group and 12.5 % Turkish people who have two decreased functional defective allele or one normal and one non functional defective allele causing IM phenotypes are also in the risk group. This study is important to provide guidance on the importance of conducting postmortem forensic examinations to elucidate the role of genetic variation in drug intoxicants.

PP-622

Investigation Of Existence And Types Of Human Papilloma Virus In Sex Workers

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Introduction: Human papilloma viruses (HPV) cause to various infectious clinical pictures and anogenital cancers. HPV is recognized as the primary etiological agent of cervical cancer worldwide. In this study, we aimed to demonstrate the presence and genotypes of HPV in sex workers using cervical specimens.
Material-methods: A hundred and thirty-seven sex workers from Ankara brothels that referred to Ankara Municipality Hospital, Department of Venereal Diseases for routine examination voluntarily participated to the study. After the informed consents are received, the study group was interviewed face to face to obtain information about the socio demographic data. Cervical specimens were collected from the cases, investigating the genotypes of 21 types HPV DNA.
Results: HPV DNA was found positive in 53 of the specimens following the DNA extraction in the swab specimens collected from the prostitutes. Of these specimens, the genotypes of the low cancer risk group were found in 7 cases, indefinite risk group in one case and high-risk group in 38 cases, while genotypes of various risk groups were detected in 7 cases. Of the specimens with various risk groups accompanied, genotypes of indefinite and high-risk group were found in 4 cases, low and high-risk group in 2 cases and, each three risk groups in one case. No DNA was obtained belonging to any type of HPV in 84 participants.
Conclusion: Women working in brothels are at high risk for venereal diseases. This issue should be emphasized to protect both sex workers' health and the health of the community. It is noteworthy that the genotypes of HPV identified in sex workers are particularly high-risk types with carcinogenic effects. Therefore, informing training activities should be organized for women working in brothels and protective measures should be implemented.

PP-623

Chimerism. One Person, Two DNA Profiles

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Background: Nuclear DNA markers, such as short tandem repeats (STR), are widely used for crime investigations and paternity testing. Today there is a new concept: chimerism necessarily has to be taken into consideration when it comes to genetic profiles with forensic interest.Unexpectedly,sometimes, when different samples from the same person are analyzed, it is possible to conclude that these different samples seem to be originated from two different persons! However, taking into account contextual information and data from complementary genetic analyses, the most likely hypothesis isthat the deceased was a chimera! Nowadays it is imperative to the analysis of two traces so that the chain of custody can be preserved.
Method: Samples of differenttraces, blood andsaliva wereanalyzed byPCRby analyzingdifferent markersin order to obtainagenetic profileof individuals studied. These individualswere mostlycancer patientssubjected tobone marrowtransplantation.
Results: For this work the authorsstudiedextensively thegeneticprofileof transplant patients(the authors are grateful toPortuguese Instituteof Oncologyof Oporto). For that purpose, two different biological traces were analyzed in those samples, blood samples as well as oral swab. These traces were collectedbefore andafter surgery, and also at different times after surgery in order to determine target effects.
Conclusion: Thus far, the challenge that chimeras pose to the simple alignment of genome-body-person has been limited both by relegating chimeras to freak show status and liberal institutions demands that individuals must be singular. Our results clearly show new information of those phenomena's, such as transplantation results in microchimerism case studies, with the medical legal implications arising therefrom. Both crime investigations and paternity testinghave to take into account: these new data shows to establish genetic profiles and the conclusions arising from them! The DNA profiling can no longer be dissociated fromthis newemerging conceptthat hasdirect consequences onmedico-legalconsiderations. Fiction versus Reality: unrealistic expectations from the Chimera DNA contribution.

PP-624

CYP2D6 polymorphism in suicide cases – Preliminary results

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Background: Suicide is a very serious act and risk factors have been classified as psychiatric, environmental or biological. It has been suggested that CYP2D6 gene involvement in the impact on suicidality may be due to unsuccessfully outcome of antidepressant therapy in ultrarapid metabolizers. An alternative explanation is based on CYP2D6 role in the metabolism of endogenous brain substrates which could affect psychological functioning (personality, cognitive functions and vulnerability to psycopathology). Actually, previous studies showed a high frequency of CYP2D6 duplication/multiduplication among suicide cases and attempters. The present preliminary study investigates CYP2D6 polymorphism in autopsy samples from suicide cases evaluating the enzymatic activity based on the number of active alleles. Data were compared with those previously published.
Method: Blood or buccal swabs from suicide cases (33 out of 57) were analyzed. Whole CYP2D6 gene has been amplified by Long-PCR, and 11 relevant SNP positions were detected by minisequencing in order to identify the most common alleles showing different enzymatic activity. Samples were separated on an ABI 310 Genetic Analyzer and quantitative information derived from electropherograms was employed to establish the phase of gene duplication in heterozygous individuals. Phenotypes were predicted according to the number of active alleles and individuals were grouped in four enzymatic activity classes. Results were compared with published data using Fisher's Exact test performed by RXC software. p-Values<= 0.05 were regarded as significant.
Results: Our preliminary results are in agreement with previously published data showing that the number of individuals carrying more than two active CYP2D6 genes is higher compared with those died for natural causes.
Conclusion: Despite the limited number of tested individuals in our preliminary study, also due to the DNA quality in forensic samples, the higher number of ultrarapid metabolizers in suicide cases seems to confirm an association between CYP2D6 genetic polymorphism and suicide. Further studies increasing the suicidal sample are needed to verify the data and to look for an explanation.

MISCELLANEOUS

PP-625

Evaluatıon Of Perıoperatıve Anestesia Related Deaths According To Records Of Forensic Medicine Institute

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In this study, We aimed evaluation of perioperative anesthesia-related deaths according to records of forensic medicine institute

Reports of Council of Forensic Medicine, between 2006 and 2011 were analyzed retrospectively. Total 144 cases were found who had died during the perioperative period. These cases were evaluated according to the following criteria: gender, age, type of the health center, diagnosis, clinic branch of the physician/s who had performed the operation, preoperative preparation, whether the surgical attempt was emergency or planned, method of applied anesthesia, health personnel who had applied the anesthesia, period in which the death occurred, if the autopsy was performed or not, causes of the perioperative death.

Pedersen et al. told that most deaths associated with anaesthesia and surgery occurred in the elderly. Our study realized on the cases which were the subject of the malpractice claim to the court. In our study, Obstetric and Gynecology and General Surgery were the first clinic branches of the physician/s who had performed the operation. Similarly, in the study of Eke et al, Otorhinolaryngology (25 %), Obstetric and Gynecology (25 %), and General Surgery (16.7 %) were in the first three branches.

Mortality is more high in the emergency surgery cases.

In our study, 38.33 % of the deaths were surgery-related and 20 % of them originated from vascular and internal organ injuries.

These data may be useful in developing strategies to prevent perioperative and surely anesthesia-related deaths.

PP-626

Aretrospective study of pattern of forensic cases in Gaza strip: does occupation play a role?

Alaa Khalil Alastal

Aretrospective study of pattern of forensic cases in Gaza strip: does occupation play a role?

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Background and aim: Forensic medicine practice in Gaza strip faces many problems due to instability of the security situation which makes the pattern of the criminal and civil cases referred to the forensic center. This encourage me to explore the causes of death and the pattern of cases examined in the Forensic medicine department, Alshefa hospital throughout 2011 for a period of one year.

Methods: The current study is a retrospective one via the medicolegal records.

The data of all cases were investigated regard, epidemiology, number of clinical cases versus autopsied ones, type of injuries, findings at autopsy, results of investigations –if any- cause of death, manner of incidents.

Results: The total number of cases were 614 cases with 517 deaths and 97 living cases

The study revealed that the rate of crimes are less compared to other hot regions in the world. Bombing constituted 9 % of the studied cases. 40 cases showed death due to burn meanwhile, 4 % of them sustained electrocution and similar percentage died from carbon monoxide poisoning. Finally cases of road traffic accident injuries and deaths were 55 % of the studied cases and the number of children outweigh that of adult cases.

Conclusion &recommendations: The pattern of injuries and deaths in Gaza strip is greatly affected by societal situation under occupation and the need for training courses for the forensic staff and enforcement of the investigation laboratories together with awareness campaign about preventive measures form carbon monoxide poisoning, electric injuries, and road traffic accidents.

PP-627

Desadaptative Responses derived from violence towards teachers and health care workers

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Background: Aggression by students or patients towards teachers or health care workers has become more and more frequent. Professionals only report the most serious cases, so the figures do not show the true extent, or severity of the problem.

The aim of the present study was to characterize this phenomenon and its consequences for the victims´ health. This was a retrospective study with the purpose of researching experiences of violence over the preceding twelve months.

Method:

Participants: A stratified sample (N=1,845 health care workers, belonging to 3 hospitals and 22 Primary Care centres), and (N=849 compulsory education teachers to 23 centres9.

Instruments:

- Demographic data record.
- Aggression questionnaire: descriptive information about the aggression and the aggressor
- Record of psychological symptoms caused by violence.

Results: Eleven percent of the sample (health care workers), and 2,8 % (teachers) had been a victim of physical aggression, whilst 64 % (health care workers), and 59,2 % (teachersI had been exposed to threatening behaviour, intimidation or insults. The incidence was higher in large hospitals, with very high levels in A&Es Servicie (48 %). An important proportion of professionals had been victims of violence on more than one occasion.

Up to 85 % were perpetrated by the patients themselves (A&E, 27.3 % aggressors were people accompanying patients). In Education: up to 82 % were perpetrated by the students themselves.

The most frequent cause in health care services was the result of waiting times (58 %). In Education, the most frequent cause was the result of disciplinary reasons (69 %),

Only 3.7 % of physical aggression were reported. None of the episodes of threats or insults had been reported.

The physical aggression usually are of lower intensity in the health, and educational sector, whereas non-physical violence occurs more frequently and a statistically significant association was found with anxiety, and symptoms of Post-Traumatic Stress.

Both forms of violence showed an identical negative impact in terms of burnout.

Only two out ten workers felt they were supported by the management or administration in cases of aggression. This variable was seen to be a modulating factor of the psychological effect of aggression.

Discussion: The outcome of this survey will impact the forensic community by providing the true dimension of violence phenomenon.

Based on these results, our team has proposed prevention protocols in which medical and legal counselling are included as well as the dispensation of psychological support.

PP-628

Pattern of acute poisoning in makkah region saudi arabia, 2009–2011

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Background: Poison is a substance capable of producing damage or dysfunction in the body by its chemical activity. Aim of the work: to determine and analyze the various factors influencing the pattern of poisoning in Makkah, Saudi Arabia during the period from January 1st 2009-to January 1st 2011.
Subjects and methods: This is a cross-sectional retrospective study. The data were derived from the routinely registered data of poisoned cases admitted to different hospitals in Makkah, KSA.
Results: The total number of studied poisoned cases in the study area was 330 cases: 200 adult cases and 130 pediatric cases. Manner of poisoning was mainly suicidal among adult (51 %) while all pediatric cases were accidental manner. The major cause of intentional poisoning was therapeutic drugs (44.33 %) especially acetaminophen among adults. Male/ Female ratio was 3:5 among the whole number of cases. Most of poisoning adult cases were observed among age group between 21–35 years (40 %) and most of poisoned pediatric cases were< 4 years (70 %). Seasonal variation was commonly during autumn for adults (33 %) and spring for pediatrics (38.5 %). The majority of adults and pediatrics cases originated from the urban areas (71 %) and (84.6 %) respectively.
Conclusion: this study showed that poisoning cases were mainly accidental. Misuse of therapeutics is the most frequent reason of poisoning. To prevent poisoning, there should be continuous education of the public.

PP-629

Mortality among homeless and unclaimed bodies in Mangalore city

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Homelessness is a social as well as legal stigma on a Country's development index. In addition homeless people are exposed to increased incidence of diseases and accidents. Mangalore city, a bustling city located in Southern costal region of India, has seen tremendous growth in the past few years; with this the problem of migrants and homeless has also increased. This has invited a spectrum of problems relating to law and order including frequent incidences of unclaimed dead bodies, both due to natural and unnatural causes. This autopsy based study tries to highlight the situation of picture of homeless deaths in Mangalore and the problems faced by the Law enforcing authorities.

PP-630

The forensic medical analysis of suicides cases

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Aims: This work was devoted to the study of epidemiological factors (age, sex, method of suicide, seasonality, regional differences) that are relevant to the occurrence of cases of suicide, based on forensic medical examination materials.
Materials and methods: The retrospective analysis of the conclusions of examinations of the corpses was in 2010 is carried out which connected with cases of a complete suicide in Uzbekistan. The special database consisting of 11 signs was created, statistical processing of the received data was spent.
Results: Cases of a complete suicide have made 13,07 % from all examinations of corpses, 20,06 % from violent death cases. Men who died by suicide were 68,4 % and 31,6 % of women. Autoaggression was committed by hanging - 87.3 %, by poisoning – 5,5 %, by damage sharp objects – 2,3 %, by self-immolation – 2,2 %, by falling from a height – 1,0 %. Other cases of a suicide (railway trauma, gunshot, drowning) are noted in 1,7 % of cases.

The analysis of suicides on age groups has shown, that the majority have made persons, at the age of 18–29 and 30–44 years. On the given age groups 64,2 % of all cases of a suicide were necessary. It is established, that the suicide was often made in densely occupied regions, in particular in the Andizhan, Namangan, Tashkent, Fergana areas and in the city of Tashkent.

Cases of a complete suicide had dynamics of increase in spring-summer period and decrease in autumn - winter months. Among days of week the highest indicator is noted on Monday – 16,0 %. The minimum indicators of suicide at men and women were noted on Sunday −12,9 % and 11,9 % respectively.
Conclusions: Cases of a complete suicide take a powerful place in forensic medical examination of corpses. Forensic medical examination data have important values in development of measures on suicide preventive maintenance.

PP-631

Enhancement The Biodegradation Resistance Of Documented Paper Modified By Graft Copolymerization

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In this work, The chemical graft copolymerization were used to enhance the biodegradation resistance of documented paper by reaction of acrylonitrile monomer onto cellulosic paper sheet in the presence of comonomer {Styrene or Acrylic acid or Itaconic acid } 1:1 molar ratio in dimethyl formamide using benzoyl peroxide (Bz2O2) as a free radical initiator under nitrogen atmosphere at 70°C. Infrared spectroscopy confirm that graft copolymerization reaction occurs onto the paper samples. The biodegradability was determined on the basis of weight loss % using the soil burial test.The incorporation of copolymer into the structure of cellulosic paper sheet by graft copolymerization reaction decreased sharply the biodegradability of cellulose macromolecules. This was confirmed visually in which a completely degradation and damage for ungrafted paper was obtained after 4 days to such an extent that it fell to pieces and can not be mechanical tested,but the different grafted paper sheets modified by hydrophobic,hydrophilic grafted chains exhibit a lower decrease of tearing resistance as a mechanical properties. The results show that graft copolymerization greatly decreases the biodegradability of the paper, depending on:
a- The hydrophobic, hydrophilic degree of the grafted chains.
b- The increase of paper sheet grammage by increasing grafting %.

PP-632

Elemental Analysis of Forensic Glass Fragments by Scanning Electron Microscopy with Energy Dispersive X-ray Spectrometry (SEM-EDS)

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Glass is one of the most important kind of physical evidences which are recovered from crime scene, victim and suspects in a criminal investigation. Glass that is broken and shattered into fragments and minute particles during the commission of a crime can be used to place a suspect at the crime scene. Glass evidence is frequently encountered in forensic investigations for example, in cases of burglary and hit-and-run.

Scanning Electron Microscopy with Energy Dispersive X-ray Spectrometry (SEM-EDS) is a powerful tool for forensic scientists to classify and discriminate forensic glass evidence because they can both examine the morphology and the elemental composition of glass fragments.

SEM-EDS was used for examination of elemental composition of 17 kind of car windscreens, 2 kind of headlights and 3 kind of foglamps that were taken from 8 different auto repair-shops and 2 kind of window panes that were taken from 2 different window pane producer.

It was determined that elemental composition results can be used for classification of car windscreens, headlights, foglamps and window panes. Also it was determined that both elemental composition results and kinds of elements at the composition can be used for classification of foglamps. It was concluded that obtained results from the examination of glass samples may be used as valuable parameters for explaining the relation between the people and crime scenes and require the composition of needed data base for further applications of forensic glass analysis.

PP-633

DNA Chip Technology

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Objective: To review the literature on DNA chip technology and its application in different medical fields.
Design: Literature view.
Setting: DNA chips are powerful new tools for the study of gene expression and genetic varia¬tion. With the availability of increasing num¬bers of completely sequenced genomes, it is now possible to make DNA chips in which all the genes of an organism are repre¬sented, and to simultaneously assess the ex¬pression of all these genes. Gene expression profiling, can be used to determine the function of particular genes during a particular state. By assumption, genes that share common regulatory patterns also share the same function. Therefore, extrapolation of function based on common changes in expression remains one of the most widespread applications of DNA chip. Scientists who have already worked with DNA Chip expect them to make a breakthrough in medicine. New advances can be expected in diagnostics of diseases. Completely new therapeutic procedures. DNA chip applications include new types of medications,antibiotics, vaccines and advances in many medical fields.
Conclusions: DNA chip is used in analysis of gene expression., genotyping, mutational and gene resequencing analysis. Gene expression analysis is used to facilitate the understanding of human disease in terms of refining and redefining at the levels of diseases classification, outcome, mechanisms and to identify genomes.

PP-634

The risk of perinatal mortality associated with asthma and inhaled corticosteroid use during pregnancy

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Maternal asthma is one of the most common medical conditions in developed contries that can cause serious problems for the mother and the foetus with 3.4 % to 12.4 % of pregnancies complicated by asthma. On the other hand, a relatively important rate of of pregnant women, 4 % to 7 %, uses anti-asthmatic drugs. Stillbirth, neonatal mortality and/or perinatal mortality are the most dramatic perinatal pregnancy outcomes for children and families. However, the effect of asthma and the use of inhaled corticosteroids (ICS) during pregnancy on these perinatal outcomes have been inadequately evaluated. Most studies that have evaluated these associations suffer from a lack of statistical power and/or a lack or an inadequate adjustment for potential confounding variables. The objectives of this thesis were to evaluate the risk of perinatal mortality among asthmatic women compared to non-asthmatic women. This thesis also aims at evaluating whether or not asthmatic women exposed to ICS during pregnancy are more at risk of perinatal mortality than asthmatic women who are not exposed to ICS as well as estimating the risk of perinatal mortality as a function of the daily dose of ICS taken by the mother during pregnancy. From the linkage of three of Quebec's administrative databases, From this cohort, two cohorts of pregnancies were constructed.Firstly, we observed that asthma during pregnancy may increase the risk of perinatal mortality due to an increased risk of low birth weight and premature delivery among asthmatic women,However, after adjusting for cigarette smoking, the relative risk of perinatal mortality decreased to 12 % and did not remain statistically significant. Finally, no significant increased risk of perinatal mortality among asthmatic women exposed to ICS during pregnancy (any doses) as compared to asthmatic women who were not exposed to ICS during pregnancy was observed.-However, the use of more than 250 ug/day of ICS was associated with a 52 % increased risk of perinatal mortality, but the association was not significant,This increased risk may be explain by an inadequate adjustment for asthma severity and control (asthmatic women who used more than 250 ug/day of ICS may have more severe and uncontrolled asthma). The conclusions of our work which is rather reassuring can contribute to a better management of asthma during pregnancy, assist physicians in prescribing ICS during pregnancy and reassure pregnant women with asthma and pregnant women who should use ICS.

PP-635

Flotation–separation of toxic metal ions from aqueous solutions using thiosemicarbazide derivatives as chelating agents

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This investigation presents thiosemcarbazide derivatives as organic chelates (which are not pollutant for water media and may have biological importance) for the separation of about 100 % of Hg2+, Mn2+ and Cd2+ ions. This is accomplished by using the simple, rapid and inexpensive flotation technique. This technique is expected to be soon incorporated as a clean technology to treat water and wastewater. The procedure is free from interferences, is not affected by raising the temperature up to 65°C (which enables its application to hot wastewater treatment without the need for cooling) making the process economical. It is also successfully applied to the recovery of Hg2+, Mn2+ and Cd2+ ions spiked into different environmental water samples. The flotation mechanism is based on the formation of hydrogen bonding between oleic acid surfactant and mercury–thiosemcarbazide complexes.

PP-636

Lead, cadmium and cotinnine impact on semen quality and protective role of zinc among men in the occupational lead exposed population

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Background: Evidence on human semen quality as it relates to exposure to various metals, both essential (e.g. zinc) and nonessential (e.g., cadmium and lead) and cotinine, is inconsistent. Most studies to date used small sample sizes and were unable to account for important covariates.
Objective: The objective of this study was to explore relationships between level of lead, cadmium, cotinine and Zn in the blood and seminal plasma and semen quality among men in the occupational lead exposed population working in the lead battery manufacture, including smoking and nonsmoking men.
Methods: Forty men from battery lead manufacture named group II and thirty healthy volunteers not exposed to lead named group I were recruited, both groups were divided into smokers and nonsmokers. Blood and seminal plasma concentration of (Cd, Pb, Cotonine and Zn) were measured in both groups also semen quality parameters. Zincorotate 40 mg was given once daily single dose to group II subjects, then blood and seminal plasma concentration of (Cd, Pb, Cotonin and Zn) also semen quality parameters were measured and compared with same group before starting Zincorotate 40 mg supplement
Results: Group II had significantly higher blood and seminal plasma concentrations of lead, cadmium and cotinine than did group I subjects for both smokers and non smokers ($P<.001$). While zinc had significantly lower plasma concentrations in group II subjects than in Group I subjects also for smokers and non smokers ($P<.001$). Sperm quality in group II (battery factory workers) smokers and nonsmokers were significantly lower than those in group I (none exposed) smokers and nonsmokers. A significant negative correlation between sperm concentration, motility, and seminal cotinine, lead and cadmium was identified in group II subjects ($r=-0.494$; $p<0.05$). A significant drop ($p<0.001$) in (mean±SD) blood and seminal levels of lead, cadmium and cotinine occurred in both smokers and non smokers after 24 weeks of taking Zincorotate® 40 mg orally single daily dose. A significantly positive correlation between Zn levels and sperm quality ($r=0.52$, $p<0.01$) and normal morphology.
Conclusions: Zincoorotate 40 mg should be given after blood plasma and semen assessment to battery factory works and highly exposed population to heavy metals.

PP-637

Homicide-suicide during the past 16 years in the southern half of Osaka city and surrounding areas

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Background: The city of Osaka mainly consists of old city areas and newly developing areas, which have different social and economic backgrounds, as is usual for big cities throughout the world. The present study investigated homicide-suicide (H-S) as a rare and specific form of suicide in the southern half of the city of Osaka with regard to the incidence, and social and forensic issues.
Methods: H-S was defined as a case of multiple victims found together, in which one committed suicide after murdering the other(s). Cases without reliable circumstantial evidence were excluded. Forensic autopsy cases over a 16-year period (1995–2011) at our institute, covering the southern half of Osaka city and surrounding areas (a population of about 1.6 million), were retrospectively reviewed.
Results: The total number of forensic autopsy cases during this period was 2,737 (171.1/year), including homicide (n=373, 23.3/year) and suicide (n=205, 12.8/year). Among these cases, 18, involving 38 deaths, met the above-mentioned definition of H-S; 18 were identified as offenders, and 20 were murder victims (1 and 3 victims in 17 and 1 cases, respectively). The majority of offenders were male (n=14, 78.0 %), and the age was 33–91 years (median, 63.5), while murder victims were mostly female (n=13, 65.0 %), and the age ranged from 2 months to 85 years (median, 38.5); most murder victims were children (n=9, 45.0 %) and spouses (n=8, 40.0 %). Motives for H-S were heath problems (n=10, 55.6 %), poverty (n=2, 11.0 %) and jealousy (n=1, 5.6 %), but were otherwise unknown (n=5, 27.4 %). The most common causes of death were strangulation/smothering for murder (n=11, 55 %), followed by drowning (n=4) and sharp instrument injury (n=2), and hanging for suicide (n=10, 55.6 %), followed by sharp instrument injury (n=3) and drowning (n=2). Some offenders had a clinical history of depression (n=3) and physical illness (n=2). Most children killed by their parents (n=6, 66.7 %) were mentally or physically handicapped. The most frequent site of H-S was their homes (n=13, 72.2 %); most victims were found within 2 days of death (n=16, 83.3 %) often by their family members (n=8, 44.4 %) and acquaintances (n=3, 16.7 %). A farewell note was found in 11 cases (66.7 %). H-S was more frequent in newly developing areas (n=14/18, 77.8 %).
Conclusions: H-S was infrequent, and most cases occurred in newly developing areas, involving intimate family members. Family health problems, including handicapped children, was the most frequent motive; adequate health care is therefore important to prevent H-S.

PP-638 (Omitted)

PP-639

Diversity of airborne fungi in a forensic pathology service: a preliminary study

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Forensic Mycology is a recent field of Forensic Sciences and has been proved to be a very useful tool. Since fungi have such a crucial role, it became important to assess the airborne fungi inside a Forensic Pathology Service. In this study, we collected fungal air samples, in three different areas: in the refrigerated chambers room (RCR), inside the refrigerated chambers (RC) and in the autopsy room (AR). PDA and MEA media were used for fungal isolations. Fungal isolates were subject to morphological and molecular identification. In addition, we also calculated the Shannon-Wiener index along with Species Evenness, to determine species diversity. Our results showed that with PDA medium we obtained more isolates than with MEA, with a total CFU amount of 67 CFU/m3 in RCR, 62 CFU/m3 RC and 22 CFU/m3 in AR, for PDA, and 63 CFU/m3 in RCR, 57 CFU/m3 in RC and 15 CFU/m3 in AR for MEA. Penicillium was the more frequent genus, appearing in all sampled places with the two tested media. In general, species diversity and species evenness were higher in the refrigerated chambers room and inside the refrigerated chambers than in the autopsy room. The autopsy room, in spite of being a closed room, is frequently cleaned and disinfected, on a daily basis, and this can explain its low diversity. Since we have done only one sampling in the spring season, more season samplings should be done to compare these results with the ones taken in fall or winter.

PP-640

causation and accountability of a forensic case of traumatic diabetes mellitus and review of the literature

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Diabetes mellitus traumatic cannot be established beyond doubt by scientific evidence.

It rests upon assumptions which forensic requirements are:
- The absence of prior diabetic;
- The sudden onset of diabetes mellitus;
- The causative trauma is exceptionally pancreas, usually is emotional;
- Diabetes must be sustainable;
- The onset diabetes can never be regarded as attributable to intercurrent trauma.

The author proposes the presentation of a forensic case, for an adult, aged 18 years, with no known medical history, a victim of assault and battery, point of impact to the abdomen.

We were required to establish the causal link between diabetes mellitus and trauma in question.

PP-641

Hemoperitoneum Due to Rupture of a Subserosal Vein Overlying a Uterine Leiomyoma

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Uterine leiomyoma is the most common tumor in women of reproductive age, but rarely does it lead to fatal hemoperitoneum. We present an autopsy case in which the cause of death was massive hemoperitoneum due to rupture of a subserosal vein overlying a uterine leiomyoma. We report the case of a 28-year-old Japanese woman who had tuberous sclerosis and was gravida 0, para 0. She had a uterine leiomyoma leading to dysmenorrhea. Autopsy revealed a pinhole-sized rupture of a subserosal vein superficial to the leiomyoma that resulted in fatal hemoperitoneum. Rupture of a subserosal vein overlying a uterine leiomyoma may cause sudden and unexpected death.

PP-642

The Determination of Awareness of Juridical Dimensions of Horsemanship Injuries

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Horsemanship has also risky and dangerous aspects like other sports branches. As a consequence of falling of a horse or a horse kick, serious lesions may cause life threatining danger and on the contrary not any lesion may be seen as well. Employed public survey aimed to determine that the horsemen in riding schools were aware of juridical dimenisons of injuries or not.

Public survey employed to 50 horsemen in riding schools in İstanbul and Eskişehir, including the following information; their ages, educational levels, injuries-treatments, if they have enough knowledge of protective measures of horsemanship or not, if the injuries are treated as juridical cases or not.

From the total of 50 riders; 35 riders are man (% 70). The average age of the riders is 27,64±10,63. 41 riders consulted to a hospital after injuries. Only 4 of the cases are considered as "Juridical Cases" in emergency service of the hospitals. One of the 4 horseman injuries which are considered as "Juridical Cases" has a broken bone and others seemed to have treatment due to soft tissue lesions. Data examined with the characteristics of traumatic diagnosis of horsemanship, the likelihood of undesirable situations resulting from the nature of the riding sport and national and international legislation accompanied by literature.

PP-643

Sex Determination of Dried Blood Stains Using Multiplex PCR

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Background: Determination of sex using DNA typing is one of the most important procedures in the forensic field. The aim of the present work was evaluation of the simultaneous use of sex- determining region Y (SRY) and androgen receptor (AR) genes in sex determination from dried blood stains.

Methods: The dried blood samples (n=30) were divided into two groups: dried blood samples on glass slide and stains on filter paper. The dried blood samples were stored at room temperature till DNA extraction using QIAamp DNA investigator kit.

The quantity and purity of DNA extracted from each group was measured using Nano Drop-2000 spectrophotometry. High purity DNA has an A260/A280 ratio of 1.7–2.0. Lower ratios indicate presence of protein contaminants.

For sex determination, the samples were subjected to multiplex PCR amplification of the SRY and AR gene. Separation and detection of the amplified product were performed using 2 % Agarose gel electrophoresis and U/V transillumination.

Results: Successful DNA extraction from all samples was done within a conventional period of time. No significant difference was observed in DNA extracted from the dried blood scraped from glass slide and stains on filter paper samples regarding quantity and purity of DNA extracted.

The sex typing results were based on the PCR amplification product of the SRY gene locus in the Y chromosome (779 bp) for male samples only and AR gene locus in the X chromosome (292 bp) for male and female samples.

Successful sex determination was achieved in 66.7 % of dried blood samples. The quantity and purity of DNA extracted from dried blood samples were significantly lower in undetermined than determined sex samples.

Conclusion: From this study it was concluded that QIAamp DNA investigator Kit provides a fast, easy, and reproducible method for genomic DNA isolation from samples on difficult substrates like filter paper. Genomic DNA was of sufficient quantity and quality suitable for demanding PCR-based genetic assays especially DNA sex typing.

There was no effect of storage periods on DNA quality and quantity. Multiplex PCR targeting SRY and AR genes is a rapid, accurate, sensitive, reliable and easily manipulated method for determination of sex of dried blood samples and provided no false positive results. The low quantity and poor purity of extracted DNA affect the success of sex determination. As the sample that showed successful sex determination has significantly higher DNA quantity and purity than samples with undetermined sex.

PP-644

Development and psychometric properties of the Hospital Aggressive Behaviour Scale- Users

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Aim: This paper is a report of the developement and psychometric testing of the Hospital Aggressive Behaviour Scale- Users.
Background: Workplace violence is present in many work spheres, but in the healthcare sector, nurses in particular are at more risk due to the close contact they maintain with users and clients and the special characteristics of this relationship.
Method: Using qualitative and quantitative methodology, an instrument was applied to a sample of 1,489 nurses from 11 public hospitals.
Results: Exploratory factor analysis yielded a 10-item instrument distributed in 2 factors (verbal violence and physical violence), which was validated by means of confirmatory factor analysis. Both the resulting questionnaire and the factors identified present high internal consistency and adequate external validity, analyzed by means of significant correlations between the Hospital Aggressive Behaviour Scale and job satisfaction, burnout components, and psychological well-being.
Conclusions: The results indicate that, in nursing personnel, higher exposure to user violence leads to lower job satisfaction, more emotional exhaustion and more cynicism, as well as to a lower level of psychological well-being.

The instrument developed in the present study may be very useful in the sphere of assessment and prevention of psychosocial risks for the early detection of the problem of user violence in its two facets.

PP-645

The Prominence Of Disaster Victim Identification On Natural Disasters In Turkey

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Background: Turkey always has been a disaster prone country because of its tectonic structure, geologic structure, topography and meteorological characteristics. Thus earthquakes, floods, landslides, and other natural hazards continue to cause thousands of deaths and hundred thousands of injuries each year in Turkey. After a mass disaster, due to the large number of corpses or casualties, identification process needs to be done by multidisciplinary organized teams. In Turkey, there are several search and rescue groups that do effective and successful operations nationally/internationally but they are lack of statutory organization among them. Besides rescue and relief efforts, identification of the dead victims is one of the most important jobs in disaster management. Disaster Victim Identification (DVI) is the internationally accepted term to describe the processes and procedures for recovering and identifying victims and human remains in multiple fatality incidents. The aim of this research is to emphasize the deficiency of DVI that symbolize Turkey and the awareness of DVI organization in such a high disaster prone country. Also the formation of DVI organization, the essential sub groups and the intergroup coordination will be mentioned based on the current status of Turkey.
Material-method: The statistical data of natural disasters and victims at last 30 years are obtained from four national and international databases included Turkish State Meteorological Service, Turkish Republic Disaster and Emergency Management Presidency, The International Disaster Database and The National Disaster Archive of Turkey.
Results: According to the results of natural disaster reports at last 30 years, thousands of people died and millions of people affected by natural disasters. The most effective natural disaster in Turkey is considered as earthquakes effect settlements, also trigger the other natural disasters such landslides or floods and cause huge economic and social losses. In the event of any mass fatality incident, despite the cause, disaster victim identification must be undertaken. It is crucial to establish an official DVI Organization to improve the rescue/recovery and identification process of victims.
Discussion: Turkey is one of the most prominent countries likely to experience the greatest increases at climate extremes in the 21. century. This situation comes out the significance of DVI organization in natural disaster management. A multidisciplinary approach is essential to the success of operations with input from representatives of all major professional groups. It is important to ensure that all forensic professionals are trained in this area as it is preferable.

PP-646

Workplace violence, resilience and health outcomes

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Background: The literature supports the view that nurses are more likely to experience aggression from patients to whom they provide direct care, or from visitors, relatives or friends, rather than from other members of the multidisciplinary team or intruders.

However, not all nurses present negative health outcomes as a result of violence in the workplace. This may be due to personal resilience, the ability of an individual to positively adjust to adversity.
Aim: The aim of the present study is to analyze the effect of resilience between the perception of violence and its consequences on the psychological health of nursing staff. We hypothesized that high levels of resilience would buffer the negative consecuences on well-being after percieving high levels of violence. Nurses with low resilience levels would show an affected psychological well-being.
Method: The research questionnaire, administered to a total sample of 1,489 nurses from 11 public hospitals of the southeastern region of Spain (Murcia), included the General Health Questionnaire - GHQ-28, the Connor-Davidson Resilience Scale and the Hospital Aggressive Behaviour Scale- HABS-U. Based on data from 922 nurses, descriptive analysis was performed. Then we examined the modulating effect of resilience through hierarchical regression analyses.
Results: We found that nurses with low levels of resilience manifest lower levels of psychological well-being when they perceive more violent behaviours at work.
Conclusion: The results indicate that nursing staff increased exposure to violence means lower levels of psychological well-being. But resilient subjects have lower levels of those consequences. We conclude that resilience is a potential moderator variable between the perception of violence and negative health outcomes in nursing staff. Therefore resilience-building programmes should be incorporated into nursing education in order to counteract the negative consequences on the personnell's health and to increase good performance.

PP-647

Biological Traces in Gun Barrels – From Model to Reality

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Traces of backspatter in gun barrels after homicidal or suicidal contact shots may be a valuable source of forensic evidence. Yet, a systematic investigation of the persistence and durability of victim DNA from biological traces in gun barrels was lacking. Our aim was to generate a realistic model to emulate blood and tissue spatters in gun barrels as generated by contact gunshots at biological targets, to analyze the persistence and typability of DNA recovered from such stains, and to compare these results with real cases taken from forensic routine case work.

Methods: We devised and evaluated three different ballistic models for the emulation of backspatter from contact shots: a gelatine based model with embedded blood bags, a model based on a spongious matrix soaked with blood and a head model consisting of an acrylic half sphere filled with ballistic gelatine and with blood bags attached to the sphere. The models' performance was then compared to the results of the analysis of a serious of 18 cases of routine case work.

The sampling procedure was the same for ballistic models and real cases: samples of blood and tissue were collected both after the first contact shot and after a second shot fired at a backstop by probing the inner surface of both the front and rear end of the respective gun's barrel with a sterile swab. DNA was then extracted and quantified and up to 20 different STR-systems were amplified to generate DNA-profiles.

Results: Although DNA quantity and STR typing results were heterogeneous between the models, all models succeeded in delivering full STR-profiles even after the second shot. For the real cases, DNA-profiles eligible for forensic identification could be achieved in up to 95 % of cases.

Conclusion: In this study, we are first to systematically show that typable victim DNA can reproducibly be recovered from gun barrels after contact shots and that its typability may withstand even the challenging physical conditions of a second shot.

PP-648

A study of purine metabolism in primates based on allantoin and uric acid quotients in plasma

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Humans and apes do not possess urate oxidase (UOX); hence, uric acid (UA) is the main end product of purine metabolism in these species. In other mammals with UOX, UA is further oxidized to allantoin (Alla) as the final product of purine metabolism. Based on these facts, we report a reliable method for identification of human urinary stains by the UA/urea nitrogen (UN) quotient, which is used as an indicator of the concentration of urinary components. From the results obtained, we have found that some New World monkeys excrete urine containing high levels of UA. Above all, urine from tufted capchin monkeys contained high levels of UA compared to those from humans and apes. In this paper, Alla and UA concentrations in plasma samples from humans, non-human primates, rats and guinea pigs were determined, and the Alla/UA quotients were compared among the mammals. The Alla/UA quotients for 16 humans and 6 apes were less than 0.1 and under 0.14, respectively. The Alla/UA quotients for 27 Old World monkeys were 0.7-2.0 while those of 5 prosimians, 5 rats and 5 guinea pigs were 1.2-3.0. For the New World monkeys, 5 common squirrel monkeys, 13 night monkeys, 9 cotton-headed tamarins and 8 common marmosets, the Alla/UA quotients were 0.9-1.8, 0.15-1.7, 0.2-1.3 and 0.2-1.0, respectively; some subjects in the latter three groups showed values similar to those in humans and apes. Alla/UA quotients from 11 tufted capuchin monkeys were 0.05-0.15, which was nearly the same as the quotient values of humans and apes. These results suggest that unlike humans and apes, tufted capuchin monkeys and some night monkeys, cotton-headed tamarins and common marmosets lack UOX activity in the liver.

PP-649

Identification of human urinary stains by the quotient of uric acid/creatinine and hplc chromatogram

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Human and great apes do not possess urate oxidase (uricase); hence, uric acid (UA) is the main end product of purine metabolism in these species. Based on the facts described above, a single determination of UA has been widely used for identification of human urinary stains. However, Dalmatians excrete a lot of UA because reuptake of UA in urinary tubuli is disturbed in the dogs. Fecal stains of birds usually contain a large amount of UA since it is the final product of protein metabolism of them. Therefore, the single determination of UA is not reliable for identification of human urinary stains. To establish a more reliable method, creatinine (Cre) was chosen as an indicator of the concentration of urinary components. Simultaneous determinations of UA and Cre in experimentally prepared stains of human and animal urine, human body fluids along with feces of birds were performed using high performance liquid chromatography (HPLC). The quotients UA /Cre in human urinary stains were 0.61 – 2.19 (mean±standard deviation, 1.06±0.32), whereas those in other mammals including Dalmatians were under 0.44, and those in fecal stains of birds were over 15. Stains of other human body fluids tested gave extremely small peaks of UA and Cre on HPLC chromatograms, and the quotients were over 4.0. From the results obtained, it would seem to be reasonable to assume that human urinary stains give values of between 0.5 and 2.5 of the quotients UA/Cre, and that stains with such values are urinary stains of humans or great apes. The present method requires only a small amount of stains, approximately 5 by 5 mm and conventional HPLC. Since this method is simple, reliable and inexpensive, it would seem to be useful for forensic science practice.

PP-650

Evaluation of Foreigner Autopsies Performed in Izmir Between 2006 and 2011

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Background: The health and safety of international visitors is an important issue for Turkey as for the other countries. The aim of this study is to investigate and evaluate deaths of foreign country citizens.

Method: The study included 296 autopsy cases selected from 8598 medicolegal autopsies. Data were collected from autopsy files of Morgue Department of Council of Forensic Medicine in Izmir. All of the cases were analized with regard to age, gender, nationality, origin, cause and place of the death.

Results: Foreigners were from 40 different nationalities and the nationalities with the highest rate of foreigner deaths (27 %) was English. 43,2 % of the cases were tourists visiting Izmir and the

holiday towns in Agean region of Turkey. 91 cases were refugee. 221 cases were male and 75 cases were female. 51,3 % of the cases died incidentally. Highest rate for the cause of death was drowning (40,5 %).
Conclusion: Since drowning remains the most common cause of death for the foreigners in Agean region, the authorities should take more precautions for the sea accidents for these people's safety.

PP-651

Training in occupational health: present and future in Aragón (Spain)

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Aims: To conduct a formative evaluation of the level undergraduate studies and postgraduate our health professionals in the field of Occupational Health.
Methods: Descriptive study in which we designed, validated and tested a questionnaire with 11 items, directed to doctors and nurses in our country. We collected a total of 375 surveys in Aragon (Northem Easte Area, Spain) (292 doctors and 83 nurses).
Results: The results obtained show that there is a perception of training deficit on Occupational Health among health workers. Health professionals (doctors and nurses) consider that they should be more intensive trained on this area. The deficit of training is detected both in pregraduate and post-graduate educational programs and remains as an unfinished business in our country.
Conclusions: A more adequate training is claimed because it would provide them with skills and abilities needed for their professional development.

PP-652

EasiCollect: a One-Piece Device for Buccal Cell Collection and Transfer to FTA® - STR analysis via DNA Extraction, Punch-In or Direct Amplification Workflows

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The serial process of harvesting buccal cells, preparation of nucleic acid and STR profiling for human reference sample identification is a multi-step procedure that can provide variable results due to: differences between individuals capability to shed cells; poor consistency in cell sampling; inefficient nucleic acid preparation; and complex purification and profiling steps. As a consequence, there is an inherent need for a simple, robust workflow to collect and process samples for genetic database analysis.

EasiCollect is a novel, simple to use, one-piece sample collection device that has been designed to harvest buccal cells reproducibly and achieve consistent transfer to FTA® matrices. Once samples have been transferred, the chemically modified FTA matrix effects simultaneous lysis and preservation for long term storage and future testing. In addition, the FTA Card in the EasiCollect device is compatible with manual and automated punching systems to facilitate all laboratory throughput requirements.

In the current study, we demonstrate that the EasiCollect can be applied to a variety of DNA database sample processing workflows. High quality DNA can be extracted from, or processed on (Punch-In) the indicating FTA Card for conventional STR genotyping. Alternatively, EasiCollect can be integrated into a 'Direct' STR genotyping workflow to provide a simple system with minimal sample processing and high 1st pass full-profile success rate.

PP-653

The evaluation of occupational accidents resulting in death

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Abstract: In this study, the sociodemographic features, the features related to working conditions and the autopsy results of the autopsied people in the Council of Forensic Medicine, Izmir dying from ocuupational accidents have been examined. The population of the retrospective study consists of 208 autopsied people in the Council of Forensic Medicine, Izmir-Turkey. The autopsy files of 6618 autopsied people the period between 2002–2006 in the Council of Forensic Medicine were examined and 208 people (3.1 %) of the whole population were found to have died from occupational accidents. The autopsy report, autopsy record, letter of autopsy request from Public Prosecution Office, incident scene investigation –record of examination of the dead, hospital documents (if any) and whether the person had a occupational accident have been evaluated. The data was evaluated by SPSS 15.0 package program.

97.6 % of the people dying from occupational accidents were men with an average age of 38.0±12.5; 27.9 % of them were below 29, 44.2 % of them were between 30 and 44, 27.9 % were 45 and over. Of the occupational accidents leading to death took place, 22.5 % occurred in winter, 24.5 % in spring, 29.8 % in summer, 23.2 % in autumn; 11.1 % on Monday, 12.5 % on Tuesday, 13.0 % on Wednesday, %19.7 on Thursday, 14.9 % on Friday, 15.9 % on Saturday, 13.0 % on Sunday; 23.8 % between 08.00-12.00, 43.2 % between 13.00-17.00 and 33.0 % between 18.00-07.00. 36.8.0 % of the occupational accidents resulting in death were due to falling down from height. 28.3 % of the people dying from occupational accidents died as a result of body trauma. 26.4 % of the people dying from occupational accidents worked at construction sites. Among the people dying from occupational accidents, 88.5 % had no alcohol substances and 90.9 % had no soporifics-drugs in their blood, 87.5 % had no toxic substances in their internal organs. As a conclusion, it is remarkable that the rate occupational accidents causing death is higher among men, in the field of construction, in summer, in the afternoon and that they often result from falling down from height.

PP-654

Two New Quintet miniSTR Multiplexes in The Aanalysis of Formalin Fixed Tissues

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Formalin fixed and paraffin embedded tissue blocks or stained sections are important personal archival materials saved by pathology department of hospital or institution of forensic medicine, they were frequently submitted as a kind of vital evidence material to DNA detecting for the purpose of individual identification. It is accepted that available DNA extracting from these kinds of specimen very difficult because of the DNA degradation and low copy. MiniSTR typing has been proved a useful tool for degraded DNA sample due to the smaller amplicons. However, such shorter amplicons in similar length from different loci will easily overlap on electrophoresis and only be distinguished from one another by keeping one locus in each dye lane. This is particularly unfavorable for degraded DNA from a limited forensic specimen because more systems of amplification have to be required in order to get more information about MiniSTR loci. This research constructed two new quintet miniSTR multiplex in which 9 miniSTR loci and a amelogenin gene were included and assessed their availability in degraded DNA analysis with humen tissues immersed in unbuffered formalin by different fixed duration.

The candidate primers of MiniSTRs from references and the primers of amelogenion designed with premier3 were crosschecked against one another by software FastPCR6.0 for compatibility. Compatible 9 MiniSTR markers less than 150 bp integrated Amelogenin maker (91 and 97 bp) were finally selected to assemble two quintet multiplexes: D12ATA63, D2S1776, D1GATA113, D4S2408, D17S974 and D20S482, D3S3053, amelogenin, D6S474, D9S1122. The overlapped loci were distinguished from each other by labeling four fluorescence dyes (FAM, HEX, TAMERA and ROX) on forward primers, respectively. The PCR parameters were subsequently optimized with 59°C annealing temperature, 30 cycles and primer concentrations with a range of 0.1-0.6uM, which made a balance peak heights within and between the loci. The electrophoresis was fulfilled under POP4 on 3100-Avant and the typing data was validated by standard DNA 9947A and 007.

Various human tissue samples of 3 cm3 from autopsy were immersed in unbuffered formalin under room temperature and sampled timing. The DNA was extracted by DNeasy tissue kit (QIAGN). the last elution volume of 100 μL DNA solution was quantified and qualified by Real-Time PCR. Concentration 1–2 ng/μL of DNA was amplified and genotyped by two new quintet miniSTR multiplex. It showed high efficiencies in detecting high degraded DNA in formalin fixed tissues.

PP-655

Correlates of Attitudes towards Crime and Criminality

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Two studies were conducted to explore the attitudes towards crime in two samples of undergraduate students. In Study 1, the aim was to assess the reliability and validity of the Attitudes towards Crime Questionnaire (ATCQ) which was originally developed by the authors. A sample of undergraduate students (N=355, Mage=21.5, SD=1.98) participated in the study. Validity of the scale was tested with factor analysis and rotated component matrix indicated 4 factors. The resulting four subscales were; 1) Nature/structural Subscale, assessing beliefs in stable nature of criminality, 2)Nurture/environmental Subscale, assessing external attributions of criminality, 3) Trust in Justice Subscale, assessing trust in criminal justice system, 4) Cooperation Subscale, assessing willingness to cooperate with the police. Cronbach's alpha coefficients for each subscale indicated high reliability (.71,62,64,80, respectively). Results showed that ATCQ is a valid and reliable research tool to be used in future studies. In Study 2, the aim was to explore the correlates of attitudes towards crime, and to understand the underlying mechanisms of the public opinion about criminality. A sample of 423 undergraduate students (Mage=21.6, SD=2.04) were used. Nearly half of the sample group was from universities in Istanbul (45 %). Data on attitudes towards crime were gathered with ATCQ. Results revealed that mean Nature/structural scores were found to vary as a function of living/studying in Istanbul, $t(420)=-3.700$, $p<.001$, presence of a relative who has committed crime, $t(413)=-2.579$, $p<.05$, presence of an acquaintance who has committed crime, $t(413)=-3.890$,$p<.05$, suspiciousness, $t(409)=-2,192$,$p<.05$, own criminal victimization, $t(412)=-3.161$,$p<.01$, having one's own room (as indicator of socio-economical status), $t(418)=3.065$,$p<.01$. Mean Nurture/environmental scores was found to vary significantly as a function of presence of a close family member who has committed a crime, $t(413)=-2.747$, $p<.01$, and presence of a family member who work for the law enforcement, $t(413)=-2.060$, $p<.05$. Mean Cooperation with the law enforcement scores was found to vary significantly as a function of presence of a close family member who has committed a crime, $t(413)=-2.738$, $p<.01$. Findings were discussed in line with the literature on attitudes towards crime and punishment. Public attitudes about crime and criminogenic factors were thought to affect the policies that governments endorse for crime control and crime prevention. The alternative treatments like probation or parole, which are topics of current debate in Turkey were known to require public support. Therefore, public's opinion on crime and criminality has to be known by the governments in establishing alternative treatments for the criminal.

PP-656

Evaluation of The Publications of Turkish Forensic Medical Specialists Covered By Sci Between 2005–2009

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Introduction: Besides producing information and working for the development of science, sharing and presenting the information obtained is also necessary. The most accepted way of it is, the publication of the studies in the internationally recognized journals. International scientific publications, are parameters indicating the development of the countries in the field of science.
Material-methods: In this study, in order to evaluate the publication activities,covered by SCI, of the forensic medical specialists and residents working in Turkey.An announcement sent to the e-mail address group named atudgroups@yahoo.com, and people were asked to send their publications covered by SCI, between the years 2005–2009, to the researchers. All publications received had been evaluated using Web of Science data base.Grouping of the journals that the articles published in, is based on grouping of publication support program of ULAKBIM database.Journals are cathegorized as A,B and C in the ULAKBIM database. D group is designed to consist the journals covered by SCI-Expanded, though they are not in the ULAKBIM database.
Results: Between 2005–2009, 167 forensic medicine specialists and residents were in publication activities.During this period, 274 articles were published in 129 different journals.12 of the journals that the articles published were in group A, 30 (23.3 %) were in group B, 77 (59.7 %), were in group C and 10 (7.7 %) were in the group D journals. American Journal of Forensic Medicine and Pathology is the international journal that the largest number of articles sent by the specialists and residents.48.2 % of the articles

published in international journals were prospective studies, 35.4 % were retrospective and 16.4 % were case reports.
Discussion & conclusion: This study will help to obtain an idea about scientific activities in Turkey, and will contribute to the development of international publication activities in the field of forensic medicine.

PP-657

Neck and shoulder musculoskeletal disorders and psychosocial risk factors in health professionals

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Background: Musculoskeletal disorders (MSDs) are one of the most common work-related disorders in Spain, resulting in financial losses and increased time off work. Several causes become evident when analyzing the factors involved in musculoskeletal pathology, although it is necessary to understand the relative contribution of these factors in the causal chain in order to establish effective prevention policies.
Method: Cross-sectional study which aims to determine the influence of psychosocial factors in the development of neck and shoulder MSDs. The study was carried out on a total of 707 health workers in La Rioja (Northern Spain), who were given three questionnaires: an initial questionnaire, drawn up and validated in this study, which contained individual and sociodemographic details and information on working conditions, a second questionnaire based on the ERI (Effort-Reward-Imbalance) model, and finally a Standardized Nordic Questionnaire.
Result: The estimated prevalence of musculoskeletal symptoms in the neck and shoulder was 73.55 %, predominantly in the neck. Excess strain followed by stress are the main causes of the MSDs studied in the health workplace. The Effort-Reward ratio, as measured by the degree of stress, is a risk factor for the occurrence of MSDs in the neck and shoulders, although this is not true for MSDs as a whole.
Conclusion: This study provides scientific evidence of the role played by psychosocial factors in determining the risk to health workers of musculoskeletal pathology in the neck and shoulder.

PP-658

First Responders Knowledge on Personal Safety, Evidence Preservation and Collection

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Purpose: The purpose of this study is to understand the level of knowledge of first responders on crime scene investigation, collection and preservation of evidence and personal safety.
Material-method: A cross-sectional study was designed to provide the level of knowledge of first responders. In question form first part is demographic characteristics and second part contains 50 questions designed to evaluate the knowledge about personal safety and crime scene investigation, collection and preservation of evidence. A question form is employed a five-point Likert scale with multiple choices was developed according to various resources. The score of the question form was identified with giving one score for each right answer. Each of the members' score were calculated accordingly. 50 multiple choices questions were divided into two groups as questions about security (16 questions) and evidences (34 questions) and the score of these groups calculated additionally. All statistical analyses were performed using SPSS software. Values of $p <= 0.05$ were accepted as statistically significant.
Results: The questionnaire was administered to the 236 first responders, who work in "112 Emergency Ambulance Service" and private ambulance in Istanbul. The answers of the questions encoded into SPSS statistic program and analyzed. %62.4 are female and %37.6 are male. The mean age is 25.84 ranging from 19 to 40 years old. %63.9 of participants didn't take in-service education for crime scene and %53.4 didn't have crime scene course in their education. Their mean score was 28.78 over 50. The highest mean score was seen in the group of post-graduates and doctors. The mean score of the questions about security was 4.16 over 16. The mean score of the questions about evidences was 24.5 over 34.
Discussion and conclusion: First responders knowledge on personal safety, crime scene investigation, collection and preservation of evidence were not at the preferred level. Data obtained from the question form about personal safety, collection and preservation of evidence reinforces the educational gap of first responders on crime scene course. The theory to "not touch anything" at the crime scene, is not an option for first responders. As the attempt to save life is the first responders highest priority and requires physical intervention, the alternative to "not touching" is teaching first responders to recognize perishable forensic evidence, and basic preservation techniques, and define a medico-legal protocol to save the evidence until it can be recovered at the hospital.

PP-659

The relationship between sociodemographic characteristics, working life characteristics and work-related accidents of nurses in Mugla State Hospital, Turkey

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Abstract: According to Social Security Institution statistics in Turkey, 72 963 work-related accidents had happened and 866 of those resulted in death. In this study, the relationship between the characteristics of sociodemographic and working life and the possibility of experiencing a work-related accidents that nurses, who have been working at Mugla State Hospital, face with has been investigated. A cross sectional analysis has been conducted in which 225 nurses were selected. Of the 225, 200 nurses participated, yielding a response rate of 88.8 %. In the study, a questionnaire, which had been developed by the researchers and had sociodemographic and work life related variables, had been used. Fisher's Exact Test and Pearson Chi-Square Test were conducted using the program SPSS 15.0. 48.6 % of the nurses are between the range of 31–39 years old and 71.5 % have never got any education about work-related accidents after the graduation. Moreover, 78.0 % of those nurses had seen sharp tools, 26.0 % of them blood and body fluid, 19.0 % had experienced a fall off at the workplace and 18.0 % had faced with a violence. At a sharp tool accident, 53.3 % of nurses had mentioned that there were no protection used and 88.5 % of them had said that they had not reported the accidents. A dispersed treatment room ($p=0.003$), not using gloves ($p=0.000$) and insomnia ($p=0.009$) result in facing with a sharp tool; slippery flor ($p=0.000$), not enough lighting ($p=0.000$) and not being experienced ($p=0.000$) resultin fall offs and increase the risk of experiencing incidences on-the-job statistically significantly. The most important results of experiencing a work-related accidents that nurses had faced with are not being educated on the subject. Precautions should be taken by employers

and training related with how to protect ourselves against accidents has to be provided to employees.

PP-660

A Death Case Caused By Streptococcus pneumoniae Meningitis: Contributions From Postmortem Microbiological Analysis

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Introduction: Streptococcus pneumoniae are Gram-positive, encapsulated diplococci, which do not form spores and are non-motile. Its polysaccharide capsule plays a key role in its virulence.

Case: The case is male, 45, found dead at home, with his past medical history including surgery and medication due to kidney stones.

His external examination revealed greenish mucoid fluid from the mouth and the nose, six fingers in the left foot and supraumbilical median incision cicatrix.

His internal examination revealed effacement of cerebral and cerebellar sulci, flattening of gyri, and distension of the meningeal vessels. The meninx were observed to be extensively greenish in color and the CSF sample purulent. The lungs were extracted. The right lung and the left weighed 790 g and 705 g respectively. It was found that the left and right lungs were stuck to the ribs to the degree that they could be detached by hand, that their surface was tight and wet, that they were anthracotic in appearance and that greenish, foamy liquid emerged when they were squeezed. No macroscopic pathology was observed in the other organs. Chemical analyses yielded no results as to the existence of alcohol, sedatives, narcotics or toxic substance.

In the postmortem microscopic examination, leukocytes and Gram-positive cocci were found in the Gram-stain preparation for CSF, brain swab and lung tissue, Streptococcus pneumoniae was found to grow in the cultures for cardiac blood, CSF, lung tissue.

Histopathological examination revealed acute swelling zones and hyperemia in the lungs, hyperemia in myocardium, liver and kidneys. Purulent meningitis was detected in the brain and cerebellum. The cause of death was decided to be purulent meningitis.

Discussion: Acute bacterial meningitis remains among the infectious diseases with high morbidity and mortality. It is among the first ten fatal infectious diseases worldwide. Etiological agent differs according to age and underlying medical conditions. In the whole world, Haemophilus influenzae, Streptococcus pneumoniae and Neisseria meningitides are responsible for most of acute bacterial meningitis. These pathogens, make up more than 80 % of the isolated microorganisms.

In the case described, the results of internal examination revealing extensive greenish color in cerebral meninx and purulent CSF sample, the results of histopathological examination revealing purulent meningitis, and postmortem culture examination revealing the existence of the agent both in smear preparations with an abundant number of PNL and in cultures as purely isolated can all be considered to be the findings positively confirming autopsy, pathology and microbiology.

PP-661

The relationship between levels of socio-demographic characteristics, work conditions and level "mobbing" of health workers in primary health care

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Abstract: Mobbing is a having multidimensional features socially and psychologically, and it is frequent in occupational environmental. The aim of this study is to examine health care workers who work in primary health care in the city of Mugla and to determine if there is a relationship between sociodemographic characteristics, work conditions and their level of mobbing. A cross sectional analysis has been conducted in which 130 primary health care workers were selected. Of this selected group, 119 (91.5 %) participated in the study. In this study, a questionnaire, which contains the variables of the characteristics of sociodemographic and work conditions and the selected variables from Leymann's "Mobbing" Typology, has been used. Fisher's Exact Test and Pearson Chi-Square Test were conducted using the program SPSS 15.0, $p < 0.05$ was regarded as statistically significant. 83.2 % of health workers are women, 42.9 % are midwives, 27.7 % are nurses, 14.3 % are doctors, 5.9 % are civil servants, 5.0 % are health officers, 3.4 % are laboratory officers and 0.8 % are dentists. 31.1 % of health workers have faced with "Mobbing" within a year and the frequency of experiencing "Mobbing" of those 48.6 % of them is 1 to 3 times per year. 70.3 % of those who apply "Mobbing" are senior health workers and 56.8 % are men. After "Mobbing" has been reported, in majority (66.6 %), the institution has not taken any precautions. There has not been found any significant relationship among the groups in terms of age, gender, marital status, education status, institution that they work for, occupation, average monthly income and total and daily working hours. It has been discovered that primary health care workers have high prevalence of "Mobbing" exposure. In order to avoid "Mobbing" at workplace, authorities and responsibilities of all employees have to be clearly determined.

PP-662

The state of municipal police facing with violence in working life in Turkey

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Abstract: The state of municipal police of Izmir Metropolitan Municipality and her County Municipalities facing with physical assault and violence in working life were examined in this study. 379 municipal police constituted the study frame of this crossectional study. Responce rate was 97.9 % and 371 participant were interviewed. Work life determinants were questioned within 2 dimentions: working environment factors such as ergonomics, stress, accidents etc, and working conditions such as wages, hours of work, employment status, training. Most of the participants were male (91.9 %), 86.3 % were 35 years old or older than 35, 32.9 % were university graduates, 90.6 % were married and 89.5 % had at least one child, 69.8 % had no income except their monthly salary, 50.4 % employed as a municipal police yet trained or educated in totaly different occupations. 48.8 % lived far away from work and spend so much time on tranportation. 87.9 % of the participants were faced with physical assault on work and for 86.0 % some kind of weapons used during the attack. 30.8 % received forensic report after physical assault. 96.5 % were faced with harassment. The municipal police who have an important mission for the health of society yet his/her own health wellbeing needs to be protected. Violence was an important and frequent risk factor of this study group.

PP-663

Assessment of forensic- microbiological quality of ready-to-eat foods in Istanbul, Turkey

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Introduction: Production and consumption of foods were just made at homes before but fast urbanization and increase in population connected to higher industrialization caused essentiality of nutrients production out of homes. Thus; in our country and in many places at world, ready to eat (RTE) food producing manufactures are opened which serve for cheap and easy reaching foods for many self-employed or official institutions. In our country; RTE foods were controlled according to Turkish Food Code (TFC) Microbiological Criteria Declaration. The aim of this study was to determine the microbiological quality of some RTE foods which are comsumped in Istanbul, and to evaluate these foods in aspects of forensic sciences and public health of their risks.
Materials-methods: The samples were collected from May 2009 to May 2010 in Istanbul, Turkey. 750 samples transferred from 14 different RTE manufactures to Refik Saydam National Public Health Agency; coliform bacteria, Escherichia coli, Bacillus cereus, Staphylococcus aureus, Salmonella spp. ve Listeria monocytogenes are examined according to the existence of microorganisms.
Results: In the analysis of 750 samples 2.4 % E.coli, 4.8 % coliform bacteria at 709 searched samples and 6.4 %S. aureus within 718 searched samples are detected. B. cereus analysis applied 577 samples 2.25 % bacteria were detected. Within all studied samples any of L. monocytogenes ve Salmonella spp were found. Sample groups including isolation of E.coli and S. aureus with coliform bacteria are detected in soups (0.83 %), vegetable foods (1 %), rice pilaws (1.45 %) and salads (5 %) in following ratios. When we evaluated microbiological quality of products of 14 RTE food firms we detected that 7 of them were not acceptable according to TFC criterias.
Conclusions: Assessment of microbiological quality of RTE foods in the TFC are critical because identify the origin of microbiological of foods may be necessary in the forensic investigation. Our results point out that in RTE food firms even in production and in delivery, they did not obey the hygenic conditions and thus foods producted by RTE firms are potentially tend to danger not only in name of Public Health but also for Forensic Sciences.

PP-664

The Evaluation of the Boundaries of the Perception or the Ability of Managing Behavior of the Legal Meaning and Consequences of Act with a Scenario Based Study on the Primary and Secondary School Students in Manisa

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Introduction: The aims of this study are to determinate the differences in the limits of the perception or the ability of managing behavior of the legal meaning and consequences of act with a scenario based study in children and adolescents under 18 years old and below 10 years old in the primary and secondary schools in Manisa; to investigate the interaction between "the perception or the ability of managing behavior of the legal meaning and consequences of act" and environmental factors.
Materials-methods: In this study designed above mentioned aims, the results of questionnaires obtained from 969 students on the primary and secondary schools in Manisa were evaluated. The descriptive characteristics of children and adolescents which attended to this research were defined. For each scenario, the rates of "expected responses" were determined for each question. The relationship between the obtained values and the ages of students were compared with "Chi-square test". The test of "Student's-t", "Mann Whitney-U test", "Bonferroni test" and "Kruskal–Wallis one-way analysis of variance" were used for the other statistical analyses.
Results: It has been found that from 1.8 % to 36.9 % of the students do not have the ability to identify `the right or the wrong`, or to perceive the legal meaning of act; from 2.9 % to 67.1 % of the students do not have the ability to perceive the legal consequences of act. It was foreseen that these percentages have increased when the dimension concerned with ability of managing behavior have been extended. Moreover, the differences in the students` responses to criteria on the perception of the legal meaning and consequences of act are not significant between 10 and 18 years old children. The socio-cultural and socio-economic factors do not seem to affect the perception of the legal meaning and consequences of act.
Conclusion: As a conclusion of this study, it is recommended that the ability of perception and of managing behavior of the legal meaning and consequences of act for attributed crimes in every child under 18 years old should be evaluated in the special units including child psychiatrist, sociologist, forensic scientist, pedagogue, psychologist, social worker, together judge had pedagogical formation of special child courts.

PP-665

A Retrospective Review of the Fatal Occupational Accidents Encountered in Construction Sector and Autopsied Between 2004 and 2010 by the Morgue Department of Council of Forensic Medicine

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Introduction: Fatal occupational accidents are encountered in every sector that constitutes even minimal risks, construction sector accommodates the highest rate of occupational deaths, due to the significant number of risks caused by construction works. This study intends to evaluate fatal occupational accidents, in terms of risky situations, that have occurred during construction works, and underpin the forensic procedures to follow in such cases, while contributing to other studies conducted on occupational safety.
Material-methods: The study analyzes fatal occupational accidents, autopsied between 1 January 2004 and 31 December 2010 by the Morgue Department of Council of Forensic Medicine, and which were identified to have taken place in the construction sector, as indicated in postmortem examination protocols. With regards to analysis, it has taken into consideration several factors such as demographic characteristics, accident manners and causes of death, as well as toxicological examinations, and compiled some statistical data.

Results: 1045 (3,71 %) forensic cases out of 28116 analyzed stand for fatal occupational accidents. 447 (42,8 %) of 1045 fatal occupational accidents resulted in death in constructions. 446 of the cases are male, and the average age is 34,9±11,7 varying between 13 the youngest, and 74 the oldest. It is concluded that accidents happened mostly on Mondays (17 %), while the rate of fatal accidents increased in summer (32 %). Falling down from height has been determined to be the accident manner involving the highest risk (60 %). General body trauma tops the list of cause of deaths (72 %), 215 are recorded to be immediate deaths. 10 cases demonstrated various levels of alcohol in blood, and 1 isolated amphetamine in blood and urine. The blood alcohol level of 5 of the cases, diagnosed to contain alcohol in blood, is over 100 mg/dl.
Conclusion: Construction works in Istanbul have gained a steady momentum in the last few decades. In parallel to this, increased number of fatal occupational accidents in construction sector is becoming an expected phenomenon. For realization of swift measures in this field; safety at work and risk assessment implementations should be well-structured, employers and employees should be efficiently provided with raised awareness and punishments of those, who exhibit a negligent attitude, should be deterring.

PP-666

Heteropaternal Superfecundation: A case report in Turkey

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Superfecundation is the fertilization of two or more ova from the same cycle by sperm from separate acts of sexual intercourse. Heteropaternal superfecundation occurs when two different males father fraternal twins. This article reports a case of paternity identification in twins. The results showed that each twin had come from a different father.

PP-667

Demographıc Characterıstıcs Of Patıents Who Taken To The Forensıc Observatıon In An Educatıonal Hospıtal

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Introduction: It is thought to be a strong relationship between crime and psychiatry since behavioral pathologies were characterized as a findings of psychiatric disorders and the crime was seen in most of the time as a result of behavioral pathology. Forensic observation and decision which are the responsibility of psychiatry in law field aim to illuminate the nature of that relationship. There are various factors that increase the tendency to crime; and the psychiatric disorders, personality, social, economic, legal, cultural factors are among these factors (1–4).

In this study, it was aimed to examine the sociodemographic data of cases that were referred with the aim of forensic observation to a university hospital for over five years.
Material-method: The records of cases which were referred to the Gulhane Military Medical Faculty Hospital psychiatric services with the aim of forensic observation and the forensic observation was performed with being hospitalized between 2007–2011 were retrospectively analyzed.
Results: It is determined that 1482 patients were hospitalized for forensic observation for five years. Almost all of the sample consisted of male patients. The mean age of the cases that held in forensic observation for a mean of 15.1±11.2 (2–95 days) days was 26.6±8.2. 17 % of them were married and the education level was 8.6±2.2 years. 11.4 % of patients were hospitalized two times, 3.7 % were three times and 2.3 % were four or more times (because of forensic observation or another reason). When the personal characteristics evaluated with Structural Interview for DSM IV-Personality Disorders (SCID II), 30.2 % of cases had the personal characteristic of B cluster. After forensic observation, 32nd Article of TPC was applied in 17.3 % of cases, a "mentally strong" decision was made to the 8.6 %.
Discussion: Although our study is sufficiently large in number, it does not have enough features about reflecting the society because of being made on a sample dominated by closed society rules. In addition, when the nature of committed crime was considered; crime nature is also a restrictive factor. Above all, these days to discuss the relationship between crime and psychiatric disorders, there are no sufficient size and number of studies dealing with this issue in our country.

PP-668

Distribution Of Diagnosis In Forensic Observation Cases In A Training Hospital

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Introduction: The relationship between psychiatric disorders and violent behavior that is the element of crime have been being the subject of investigation for a long time (1). Because most of the time, the violent behavior that may cause the crime could also be the evidence of psychiatric illness. As is known, violent behavior in DSM IV classification can be a diagnosis of psychiatric illness such as schizophrenia, mood disorders from the diagnostic categories of some psychiatric disorders (antisocial personality disorder, borderline personality disorder, conduct disorder, etc.) (2,3). In thıs study, we aimed to examine the distribution of diagnostic of the suspects who hospitalized with the purpose of forensic observation in a university hospital psychiatric department.
Material-method: The medical records of cases which were referred to the Gulhane Military Medical Faculty Hospital psychiatric services with the aim of forensic observation and the forensic observation was performed with being hospitalized for five years were retrospectively analyzed.
Results: The forensic observation of 1482 cases were accomplished for five years. The diagnosis distribution of cases were as follows: Antisocial Personality Disorder 30.2 % (n=448), Psychotic Disorder 13.4 % (n=200), Anxiety Disorder 12.1 % (n=180), Adjustment Disorder 9.4 % (n=140), Depressive Disorder 6.6 % (n=98), Intelligence Retardation 2.9 % (n=43), Affective Disorder 2.6 % (n=40), Speech Disorder 0.6 % (n=10), Substance Abuse 0.3 % (n=5), Somatoform-dissociative Disorder 0.3 % (n=5), healthy 8.6 % (n=128), rare syndromes 0.6 % (n=10), others 11.6 % (n=173).
Discussion: When the literature is analyzed, it is understood that there is not enough study that examine the relationship between crime and psychiatric disorders in our country. Results show that the rate of patients that take the psychiatric diagnosis among the forensic observation cases are increased and antisocial personality disorder cases constitute majority of these cases.

PP-669

The Evaluation Of Criminal Responsibilities Of Arrested Cases Who Are Referred With The Purpose Of Forensic Observation

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Introduction: Criminal responsibility is defined as being conducive to crime or criminal capability by criminal law. According to the Turkish Penal Code (TPC), the first paragraph of Article 32, security measures were performed after the decision of lack of criminal responsibility to the person who can not recognize the legal meaning and consequences of his/her act because of mental illness and have decreased ability to direct the behavior of this act. According to the second paragraph of Article 32 of TPC, the reduction in punishment is performed in the cases that eliminate the freedom of consciousness and action significantly rather than completely due to mental illness or weakness (1,2). In this study, it is aimed to examine the diagnosis of the cases whose forensic observation was applied in detection for four years and the decisions that taken in terms of criminal responsibility
Method: The medical files and reports of arrested cases who were referred with the aim of forensic observation were retrospectively analyzed in Gulhane Military Medical School Psychiatry Department between January 1, 2008 - December 31, 2011. Decisions related with penal law and clinical diagnoses were analyzed. The diagnoses were made according to DSM-IV criteria.
Results: 536 cases were referred with the aim of forensic observation in detection and their forensic observation was performed for four years. The distribution of diagnosis of cases as follows: severe antisocial personality disorder (n=148), antisocial personality disorder (n=131), antisocial personality (n=118), adjustment disorder (n=34), Sturdy (n=27), psychotic disorder (n=24), anxiety disorder (n=21), mental deficiency (n=12), depressive disorder (n=5), neurotic personality disorder (n=4), borderline personality disorder (n=3), others (n=9). 34 of cases benefited from the first paragraph of Article 32 of TPC and 5 from second paragraph.
Discussion: It is attracted attention that the majority of the cases that send for evaluation under Article 32 of TPC is antisocial personality disorder. However, as in other studies, in our studies almost all of cases who benefiting from Article 32 of TPC composed of psychotic disorder and mental deficiency.

PP-670

Deaths Due to Home Accidents Which Autopsies Made Between Years of 2005–2009 in Izmir

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Introduction: Home accidents are seen more frequently than other accidents types in the world and in our country. At this study, the definition of preventions are aimed in order to decrease the deaths depended on home accidents to the least and to classify death cases developing as a result of home accidents.
Materials-methods: Autopsy was performed by the Ministry of Justice Institution of Forensic Medicine Group Chairmanship in 2005–2009 years, and autopsy reports and crime scene investigation protocols were analyzed retroactively and 415 cases that are defined as a result of home accident were received for consideration. Deaths occurred by home accidents; poisonings, blunt traumas, burns, asphyxia were investigated in four main groups.
Results: When analyzing the causes of deaths of cases that take place in research group, poisonings were seen to be primary reason of death depended on home accidents. At the study, carbon monoxide poisonings were found as the most frequent home accident reason; fire burns and blunt traumas by falling from high were seen to follow it. When deaths occurred by home accidents are being assessed from gender distribution; male deaths are significantly more than female deaths at home accidents. The most frequent age group depended on home accidents that take place in our study group were seen to occur in 0–3 ages. Majority of cases is determined to die at home scene of accidents (%61.4). At the study it is determined that home accidents and deaths depended on it happen on winter months take the first place, and deaths intensify especially on January and December, and on summer the death rate decreased to the least level. The increase of accident frequency at the periods that were spent awake and active at home draws attention. While it is determined that men carry more accident risk at window side, balcony, bedroom, corridor-stairs, garden-terrace-roof of home; women have more accident risk at the kitchen and bathroom.
Conclusion: At the study that is presented, within the scope of defined risk factors and precautions, in order to overcome the deaths depended on home accidents we reach that, to support projects towards safe home and safe house ware, and the medicines used at home, chemicals and kitchen tools, and accelerate the legal regulations related to it, to increase efforts towards training of nurses, old, children and parents, to provide inspection of home by home safety supervisors are all required.

PP-671

Stain Detection by Using Single Buffer in Sexual Assault Cases Stain

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Background: Especially for stains having more than biological source, by using single buffer;- to run all steps in trace samples (serological, microscobical, differential lysis, DNA analysis)- to prevent sample loss-to reduce contamination risk-to prevent false positivity evaluations-to run DNA of sample previous examination of which was carried out and stain origin of which is determined.
Method: Dilution of stain containing blood, saliva and semen in single tube by RSID Universal Buffer, from this diluted mixture; 1-Previous examination; Amylose-RSID Amylase Card Test, Blood-Seratec Hemdirect Card Test,Semen-Seratec PSA-RSID Semenogelin Card Test, Microssobical Sperm Examination.2-DNA Analysis: After previous examanitaion, by using the same diluted mixture, M48 isolation after cellular differantiation by differential lysis method with the same buffer+Realtime PCR (quantitaion)+PCR Amplification (Identifiler)+3130 XL Electrophoresis
Results: Card tests (RSID Amylase, Seratec Blood, Seratec PSA and RSID Semenogelin), which were used in previous examination of stain sample containing blood, semen and saliva with single buffer in single tube gave positive result, so did microscobical sperm evaluation. From the same buffer, mixed DNA profile wasz detected one by one
Conclusion: However in constentional procedures a different mixture should be prepared for ever serological test, all alternative serological

examinations and DNA analysis were carried out by using a single sample with a single buffer. False positive and false negativite evaluations were prevented, true result was obtained about real sample identification which was obtained as positive from biologicl markers at the beginning. As a result, it is concluded that it will be a true idea to run forensic stain examination procedures with single buffer as single card (panel) if possible.

PP-672

Who is his mother?: Case Report

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In our Biology Department, we obtained DNA profiles from the blood samples of a male child and 2 women, who claimed to be his mother, by using 3 different commercial kits named Identifier®-Plus, PowerPlex®16 and Investigator ESSplex. When compared the DNA profiles of the mothers found to show similar patterns. Hence, the possibility of being biological mother of the child for both women could not be rejected. Later, in order to identify the biological mother, X-STR DNA analysis was carried out with the use of the commercial kit, Investigator Argus X-12. Furthermore, we obtained biological samples from the father to show the differences in the autosomal STR DNA regions.

As it was seen in this case, when determining the bloodlines it is important to evaluate both alleged mother and alleged father samples. The electropherogram results from the autosomal STR DNA and X-chromosomal STR DNA profiles will be presented comparatively.

PP-673

Importance of X-STR in paternity test: Case Report

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In our Biology Department, we obtained DNA profiles from the blood samples of a female child and alleged mother and alleged father by using 3 different commercial kits named Identifier®Plus, PowerPlex®16 and Investigator ESSplex. Based on the results of comparisons made separately between the child and the alleged parents, the possibilities of being the child's biological mother or biological father could not be rejected. But, when all three DNA profiles compared together, it was observed that allelic transfers of some STR DNA loci might be compatible with mutation. Consequently X-STR DNA profiles were compared and as a result the possibility of being the child's biological father was rejected for the alleged father.

As it was seen in this case, when determining the bloodlines it is important to evaluate both alleged mother and alleged father samples. The electropherogram results from the autosomal STR DNA and X-chromosomal STR DNA profiles will be presented comparatively.

PP-674

Importance of new STR loci in paternity tests: Case Report

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In our Biology Department, we used the commercial kit Identifier® Plus containing 15 STR DNA loci regions to compare the DNA profiles from the blood samples of a female child and an alleged father. As a result, the possibility of being the biological father of the child was not rejected. For this reason, we analyzed 5 new STR DNA loci named D1S1656, D10S1248, D22S1045, D12S391, and D52S441 suggested by ENFSI by using Investigator ESSplex commercial kit. The results indicated the rejection of the possibility of being biological father of the female child.

We suggest that in paternity tests, 5 new STR DNA loci should also be analyzed. The electropherogram results of the autosomal STR DNA profiles obtained from both commercial kits will be presented comparatively.

PP-675

Abstract Suicide: an increasing phenomenon in Albania, psychiatric and legal perspectives

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The number of people committing suicide in Albania is increasing every year more and more. What proves this is the statistics of the state Police Department. In the year 2003 the number suicides was 170. The next year (2004) the number was increased by 173 suicides which raises the number. In 2005 the number increased a lot. The number of suicides went to 214 which is a lot of suicides for only a year. The files about the suicides are a lot and really detailed about the problems that made these people commit suicide. In 2006 the number of suicides was 210 victims. According to the State police the age of the people who committed suicide in all these years is various. In my presentation these files (the circumstances of these suicides) will be separated and divided in age, sex, estate, the place where these people live(village or city) and the metal problems that these people had. In 2007 the statistics showed that there were 216 suicide cases. And finally in 2008 the number was highly increased by 300 cases of suicide. As we can see the number of suicide cases has been extended every year more. According to the " Top 20 causes of death in Albania" suicide is listed as the 18nth cause of death leaving behind other causes as asthma or liver cancer. But it is obvious that it is very important to take this cause of death seriously. The State Police says that there have been tentative's of preventing these suicides but very few were stopped. The media also is a big helper of what I am trying to do. To convince people that suicide is not the way of making things better. There are people that can help and a shoulder you can lean on. In this project I will also include the suicidal behaviors that people do so that everyone can help them get through this phase of life. There are signs such as stress, depression, drug or alcoholic dependence, personality disorders and schizophrenia.

Key words: Suicide, Presentation, Statistic, Depression, Suicidal behaviors.

PP-676

Genetic parameters at five new European Standard Set STR loci (D10S1248, D22S1045, D2S441, D1S1656, D12S391) in population of eastern Croatia

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Background: The European Network of Forensic Science Institutes and European DNA Profiling Group recently published

recommendations for extended European Standard Set of short tandem repeat (STR) loci. Five new loci (D10S1248, D22S1045, D2S441, D1S1656, and D12S391) were added, aiming to facilitate comparison of DNA profiles between databases of different European countries. For estimating DNA profile rarity it is essential to know allele frequency data in the population. Population study on these new European Standard Set of STR loci (ESS loci) has been performed for several countries (including Belgium, Germany, Hungary, Macedonia, Maghreb, Poland and USA). Because of an urgent need for estimates of allele frequencies needed in everyday work on kinship analysis and identifying skeletal remains, we carried out population study in sample of eastern Croatia. We compare results with other populations' data and also compare genetic profiles obtained with different forensic kit amplifying the same genetic markers.

Method: Blood samples of 217 unrelated individuals from population eastern Croatia were genotyped using AmpFlSTR® NGM kit. Allele distribution and other genetic parameters for fifteen short tandem repeat (STR) loci, including five loci recently added to European Standard Set (ESS) of STR loci (D10S1248, D22S1045, D2S441, D1S1656, and D12S391) were determined. Duplicate analysis was performed in 96 samples, using AmpFlSTR® Identifiler kit.

Results: The allele frequencies and population statistic parameters for the 15 STR loci in population of eastern Croatia were established. Power of discrimination was the highest for the two new ESS loci, D1S1656 (0.97254) and D12S391 (0.97339). Comparison of allele frequencies of five new ESS loci in our sample with previously published population data showed significant difference on D2S441 in Maghreb population and on D1S1656 in American Caucasian population. Comparison of allele frequencies of standard ten STR loci with all neighboring countries' published population data showed significant difference only with Albanian population (on three loci: D2S1338, D18S51, and TH01). Discordant genotypes were observed in 5 (5.2 %) samples at single locus when amplified both with AmpFlSTR® NGM kit and AmpFlSTR® Identifiler kit.

Conclusion: New ESS STR loci are highly polymorphic and short, and therefore very useful for challenging forensic samples. DNA samples purposed for establishing databases should be routinely amplified in duplicate.

PP-677

Direct amplification with non-direct pcr kits

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Introduction and aims: A number of kits are available for multiplex PCR amplification of STR markers, for over a decade. These kits are optimized through extensive research efforts on the part of commercial manufactures. Despite its simplicity, most of these require the addition of a previously extracted DNA template.

Recently, improvements in various components and aspects of the PCR process have led to some new capabilities including direct PCR, which enables skipping the DNA extraction process, obtaining results in a minor fraction of time.

The aim of this study was to test the versatility and robustness of non-direct pcr kits, when applying to a direct amplification protocol.

Materials-methods: To carry out this study, blood and buccal cells stains, stored in non-FTA paper were amplified for different commercial STR kits, namely AmpFLSTR® Yfiler® (Applied Biosystems), AmpFℓSTR® NGM SElect™ (Applied Biosystems) and PowerPlex® 16 HS System (Promega). Although, some of these kits may be performed in the direct form with the addition of a specific reagent, according to the commercial manufactures guidance, in this study, only the kit amplification components were used. The chosen samples were also extracted with Chelex® 100 and amplified for some of the kits mentioned above, in order to validate the results.

Results and discussion: After analyzing the results, it was possible to verify that full profiles were obtained with a high success rate with the AmpFℓSTR® NGM SElect™ and PowerPlex® 16 HS System kits. With the AmpFLSTR® Yfiler® kit, it was not possible to obtain any profile for the analysed samples, evidencing that this kit doesn't allow a direct amplification, according to the tested protocol.

PP-678

Genetic identification of degraded DNA samples buried in clay soil

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Introduction and aims: Challenging biological samples found in crime scenes are often brought to our lab. Several factors, such as degradation and the presence of inhibitors, can difficult the analysis of these samples.

Our aim was to find out the DNA extraction method more suitable to overcome problems raised by these samples and to enable the identification of its genetic profile, as well as understand the obtained results based on temperatures and amount of rain that fell during the sample degradation.

Material-methods: Blood was collected from three non related donors and blood stains were made in fabrics such as denim, cotton and lycra, previously washed and decontaminated. Blood stains were dried during 3 days at room temperature before being placed in clay soil in two different assays, in summer and winter. Small pieces of each stain were collected after 1, 3, 7, 15, 30 and 90 days, in both summer and winter assays. Clay soil was chemically characterized and graphical registers, of temperature and rainfall of the 31 days that precede each the collection, were obtained from the closest meteorological station.

Positive controls (blood stains of each individual) were made in all type of fabrics.

DNA extraction was performed using Chelex 100 method, QIAamp®DNA Investigator kit and DNA IQ™System kit. DNA was quantified with an ABI Prism®7000 using Quantifiler™ Human DNA Quantification kit. Samples were amplified with AmpFℓSTR®IdentiFiler™ and AmpFℓSTR®MiniFiler™ kits and analyzed in ABI Prism®3130 and ABI Prism®3500 Analyzers.

Results and discussion: The QIAamp®DNA Investigator was the best extraction method, which enabled the recovery of more quantity of DNA, probably by efficiently removing the PCR inhibitors, such as the humic acids. Complete genetic profiles were obtained with AmpFℓSTR®MiniFiler™ for samples buried for 7 days during winter and for 90 days during summer, which reflects the higher degradation during winter due to the increased moisture content of the soil.

PP-679

Comparison of two different statistical approached for eye color prediction

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The prediction of externally visible characteristics (EVCs) is a growing field in forensic genetics and is potentially very useful to the investigation where suspects are not found. In particular eye color is an investigative tool that gives reliable results for prediction of blue and dark brown eye color with over 90 % predictive precision(Walsh et al., 2011). The use of the IrisPlex system to predict eye color is one such tool. This system uses six single nucleotide polymorphisms located in six different genes. We tested two different statistical approaches for eye color prediction. First we used the six IrisPlex SNPs with the USC "Snipper" web portal (http://mathgene.usc.es/snipper/) to determine eye colour likelihoods using subjects with blue, intermediate and brown eye color as references in Turkish and German samples. Furthermore, the predicted eye color was calculated based on sample genotypes using the "Interactive macro for IrisPlex eye color prediction modeling" by Walsh et al. The IrisPlex prediction results are reliable for blue and brown eye but not green eye color. The Snipper web portal was found to predict intermediate eye color with higher likelihoods compared to the original analytical approach. Nevertheless, intermediate eye color shows detectable differences in predictive performance between the two approaches. Further research is required to increase the likelihoods of green eye color prediction by including additional informative SNPs.

PP-680

Optimisation of the 8 Mitochondrial SNPs Using Minisequencing Technique

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Backround: The use of mitochondrial DNA (mtDNA) typing in degraded and insufficient samples is rapidly increasing in forensic science. Genotyping of additional SNPs in the coding regions of mtDNA has been suggested for increasing the power of discrimination between individuals with identical HVR I and HVR II types. It is possible to analyze the samples by utilizing mitochondrial single nucleotide polymorphisms (mtSNPs) via minisequencing technique. The aim of this research is optimization of the 8 mitochondrial SNPs using minisequencing technique and identification of polymorphic sites included these SNPs in Turkish population.
Material-method: Parameters were assessed using positive control DNA 9947A and blood samples or buccal swabs from 80 healthy volunteers from Istanbul. DNA was extracted using QIAamp DNA Mini Kit. Quantity of DNA was determined by using Qubit flourometer. 8 mtSNPs were tested 72,513,525, 11719, 12438, 12810, 14770, 15833–15884. Minisequencing technique was performed using the Snapshot Multiplex kit (Applied Biosystems). Results were analysed on ABI 3130 instrument by GeneMapper IDX software (Applied Biosystems).
Results: The optimization of 8 mtSNP loci was successfully applied by changing some assay parameters. For every SNP loci, peak sizes and standard deviations were calculated and compared with the expected peak sizes. After optimization, 80 samples were successfully analyzed.
Discussion: In a small pilot study have shown that only 2 of 8 SNPs are polymorphic, therefore it is required to increase the number of study samples for reliable results and to add more polymorphic SNPs for increasing the discrimination power.

PP-681

Anatomy of a mystification

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After investigators were called to a home by residents, who claimed that dark-red stains formed spontaneously on the floor of their house and showed also a video where stains were boiling, we were asked to analyze some dried specimens collected from those stains, in order to identify what they are made of. We were also asked to try to reconstruct what happened.

A preliminary analysis shows that the samples collected from the floor of the house are constituted by blood and identifies many bubbles and marblings. A subsequent X-ray microanalysis showed that marbles consisted of calcium phosphate

We hypothesize the substance that caused effervescence may have been a calcium-phosphate-containing baking powder, so we prepare an experimental sample (test sample) in order to compare the chemistry and morphology.
Materials-methods: The dried stains have been scraped from the floor of the house, using a clean sharp instrument, then they have be collected in clean, unused, paper envelope.

We prepared experimental samples: we withdrew venous blood from a healthy volunteer, using Vacutainer® blood collection tubes without additives to stabilize and preserve the specimen in them. We poured the blood on a tile compatible with the house floor and at different times we added some baking powder. When the experimental stains were completely dried, we scraped them off from the tile.

We prepared both test samples and case samples for scanning electron microscopic observation
Results: The samples collected from the floor of the house are constituted by human blood, poured on the floor when it was still fluid (during the drying process many materials were trapped in blood; among them there were PVC fibers, cotton fibres, hair…)

On the surface exposed to air there are many bubbles and marblings, as for the presence of a suspended saline substance. By EDS microanalysis the marblings were identified as calcium phosphate.

On the surface exposed to air of the test samples there are many bubbles and marblings too, due to the suspended baking powder. EDS microanalysis showed that marbles consisted of calcium phosphate.
Conclusions: The comparison of the morphological characteristics of test-samples to case-samples gave completely superimposable results: there were identical-sized bubbles next to marblings; marblings had the same chemical composition and identical spatial distribution patterns.

The phenomenon observed by investigators was certainly contrived and the most likely thing is that it had been caused by the addition of a baking powder to human blood.

PP-682

Social security system: analysis of European and Italian Regulations

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In the European Union (EU), disability, from mild to severe, affects one person in six. The European and Italian regulations about social security have been reviewed. The Italian social security service (ISSS) has been analysed. It provides allowances in the event of disease, maternity, unemployment, disability. It provides allowances to elderly or children and integrative services for families.

The ISSS is mostly managed by the so called "National Social Security Institute" (INPS).The 27 EU Member States, the Norway, the Iceland, the Liechtenstein (EEA) and the Switzerland (a total of 31 countries) operate security services according to European regulations. In Italy, the assessment of disability is made according to forensic medicine criteria, but this is not the case for all EU member states. This report compares regulations and evaluation criteria adopted by Italy with the ones adopted by the other member states of the EU. Data about ISSS have been collected and compared to those of other EU member states.

PP-683

Suicide attempts in Portuguese prisons: a comparative study of two populations of inmates with and without suicide attempts

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Background: Suicide is a leading cause of violent death in prisons worldwide. Several studies have shown that the number of suicides in prisons is higher than in the general population, and that the suicide attempt is a strong predictor of completed suicide. However, the underlying risk factors for suicide attempts in prison are still insufficiently known.

This study aims to characterize a population of actual inmates who committed suicide attempts in prison, identifying individual factors, personality traits and psychopathological symptoms, as well as other risk factors associated with suicidal ideation and the acting out.

Methods: This study includes 157 individuals, males, distributed into three groups: an experimental group constituted by inmates who committed suicide attempts in prison (N=52), a control group of inmates, who did not (N=52), and a second control group, constituted by people living into the community, without prior criminal behaviour history or suicide attempt (N=53). A structured interview which allowed to characterize the regarding relevant variables, the Inventory of Personality NEO PI-R, and the Psychopathologic Symptom Inventory (BSI) were used. All data was statistically analyzed using the SPSS 19® for Windows.

Results: The inmates who committed suicide attempts in prison have a mean age of 36 years (± 10.2), mostly singles (67.3 %), and with a poor educational level (46.2 %). Many have a history of drug abuse (57.7 %), and self-destructive behaviours (69.2 %). In addition, 69.2 % have psychiatric diagnosis of mental disorder. The majority (69.2 %) had criminal antecedents, and prior suicide attempts (71.2 %). The current suicide attempt was committed in most cases by hanging (57.7 %). The results of the NEO PI-R revealed that these individuals have a personality characterized by high levels of neuroticism, and reduced levels of extraversion. Further, these individuals appear to be highly depressed. It was found that vulnerability, anxiety, hostility and impulsivity are also highly pronounced in these individuals, unlike the facets warmth and trust that exhibit very low values. Moreover, the BSI revealed an enhanced Positive Symptoms Index (2.41±0.48), showing that these individuals present more psychopathologic symptoms.

Conclusions: Inmates who committed suicide attempt in prison appear to present, comparing with both control groups, a higher risk to commit completed suicide, regarding either personality structured or psychopathologic symptoms namely depression and paranoid ideation.

PP-684

The Incidence of Demodex in Forensic Autopsies Conducted in Aydın

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Demodex is a mite that particularly settles in facial regions of humans. It takes part in the pathogenesis of rosecea, acne vulgaris, perioral dermatitis, seborrheic dermatitis and blepharitis. Its main settlement region is the hair follicles and sebaceous glands of the face. It is found on the forehead, the nose and the malar region in humans.

In our study, it was aimed to determine the incidence of demodex by age and sex and the settlement region. The forensic autopsies which conducted in Aydin between the years 2006 and 2010 were used and samples were taken from the forehead, the nose and the cheeks by standard superficial skin biopsy from the cases that the duration between the time of death and the autopsy was not more than 24 hours.

In a total of 157 cases, 128 (81.5 %) were female and 29 were male. Demodex was found in 52 (33.1 %) cases and most frequently on the malar region (28 cases, 53.8 %). It was most frequently found on the eyebrows of males, whereas none of the females had it on the same region.

In conclusion, it was determined that demodex which is considered to transmit through the skin takes part in the pathogenesis of various skin diseases and the findings that we gathered from our study such as the incidence of Demodex by age and sex and the features of the settlement regions may be useful for researches.

PP-685

A Case Of Tetra-Allelic Pattern Of D3S1358 Locus Resulted From Tri-Allelic Brother-Sister Incest Relationship

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Background: Incest relationships have commonly referred to mating between first degree relatives. Father-daughter and brother-sister incest cases occur more frequently than other types and they especially receive more attention in communities.

Paternity tests have routinely utilized in forensic genetic laboratories but abnormal allelic inheritance patterns have been encountered in some rare events. Aberrant STR profiles can be resulted from both technical and biological processes including allele drop-out due to primer binding mutations, mutations due to DNA polymerase slippage errors, somatic tissue mutations, aneuploidies (trisomy, monosomy etc.), deletions, duplications, copy number variations and gene conversions.

In this study, we are reporting paternity test results of a brother-sister incest case. Mother and father had the same 16, 17, 18 tri-allelic pattern of D3S1358 locus. The baby had homozygote pattern of the parent's 17, 18 alleles. So, final tetra allelic pattern of D3S1358 locus for baby was 17,17,18,18.

To our knowledge, this case is the first presentation of a baby that has tetra allelic pattern resulted from brother-sister incest relationship and both parent's have the same tri allelic pattern.

Method: Genomic DNA was extracted from blood samples of mother, father and baby. Both AmpFI STR Identifiler kit (Applied Biosystems) and Investigator ESSplex kit (Qiagen) was used to amplify microsatellite markers including D3S1358 locus. The amplified products were analysed using an ABI 3130 genetic analyser (Applied Biosystems) followed by data analysis using GeneMapper v3.5 software.

Results: Both mother and father had 16, 17, 18 alleles on D3S1358 locus. All alleles had equal intensity suggesting that genetic abnormality was a result of duplication event (Type 2). The baby had only 17, 18 alleles on D3S1358 locus and these alleles interestingly had similar intensity of other homozygote STR loci of baby. So, this pattern assumed that baby had tetra allelic 17,17,18,18 pattern of D3S1358 locus.
Conclusion: Genetic aberrations can be problematic when scientists interpret forensic genetic STR data. Forensic geneticists have to be aware of these rare abnormalities. To our knowledge, our case is the first presentation of a baby that has tetra allelic pattern resulted from brother-sister incest relationship and both parent's have the same tri allelic pattern. In addition 16, 17, 18 triallelic patterns were not reported in literature and on Short Tandem Repeat DNA Internet Database (STRbase).

PP-686

The Correlation Of DNA Quantity In Allele Peak Heights And Peak Areas: A Study Of 115 DNA Samples From Crime Scenes

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Background: DNA quantity is crucial when studying low copy number (LCN) DNA. Locus-out, drop-out, heterozygous imbalance can be observed limiting analysis of DNA profiles. In order to eliminate such limitations while interpreting DNA profiles, thresholds (stochastic, analytical) and heterozygous ratios have to be determined for every single laboratory.
Method: In our study, the DNA profiles of the 115 crime scene samples were evaluated. We determined the threshold for the amount of DNA in which drop-outs and/or locus-outs occurred. Stochastic threshold and heterozygous balance of our study were determined. In order to evaluate the relationship of different mixtures ratios and DNA quantity, three different mixtures of 4 reference DNAs were prepared in the ratios of 70 %: 10 %: 10 %: 10 % (K1); 52 %: 16 %: 16 %: 16 % (K2) and 25 %: 25 %: 25 %: 25 % (K3), respectively.
Results: The stochastic threshold value was determined as 127 RFU. Locus-out was observed in 23.9 % (n=440), and drop-out in 4.4 % (n=100) of examined 1840 loci. Drop-out ratios interestingly increased when 0.35 ng or less amounts of template DNA used. Drop-outs were especially occurred more in TPOX, CSF1PO, and D8S1179 loci, whereas less in the Amelogen (1.4 %), D16S539 (2.6 %), D5S818 (2.6 %), and THO1 (3.5 %) loci. Heterozygous balance was calculated as 81 % based on peak height ratio, and as 82 % based on peak area ratio. Heterozygote balance was observed to be influenced more below the concentrations of 0.31 ng of DNA. The peak height ratios and peak area ratios were observed to be increased more in the mixture of K2. In K1 mix, 0,5 ng and 0,1 ng samples had remarkably high rates of drop-outs as compared to the other mixtures. Drop-out rates were highest in the 0.1 ng K1 mixture. In this group, FGA locus had the highest drop-out rates of 83 %. VWA and TPOX had the lowest drop-out rates of 25 %. FGA locus in the 0.1 ng K1 mixture had the highest drop-out ratio than the other 0.1 ng mixtures. In addition, there were no drop-outs observed in the CSF1PO, TPOX, D3S1358, Amelogenin loci of the 0.1 ng K2 mixture and TPOX, CSF1PO, AMELOGENIN loci of the 0.1 ng K3 mixture.
Conclusion: Forensic genetic laboratories should establish their own stochastic threshold and heterozygous balance threshold, especially when analyzing LCN DNA and the evaluation of the profiles of mixed samples in order to prevent misleading interpretations.

PP-687

Sequencing Analysis of HV1 and HV2 on the Mitochondrial DNA in Turkish Population

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Identification and paternity testing are important issues in forensic genetics. Generally, nuclear DNA is used for both tests. However it is not always possible to obtain successful results since very small amounts of nuclear DNA or much degraded DNA are experiencing difficulties. As known mtDNA has a much higher copy number per cell than nuclear DNA. Therefore, mitochondrial DNA analysis is more useful and advanced method for these samples. The aim of this study was to determine the mitochondrial mutations specific for Turkish population.

The non-coding control region of mitochondrial DNA (mtDNA) which contains the hypervariable regions HV1 and HV2 was analyzed by sequencing from Turkish populations. We collected blood samples from unrelated individuals from Turkish population. The samples were sequenced using the ABI PRISM BigDye Terminator v3.1 Cycle sequencing kit. Sequences were aligned and compared to the revised Cambridge Reference Sequence (rCRS) using SeqScape1 (Version 2.7, Applied Biosystems).

It was found quite a number polymorphic nucleotide positions in HV1 and HV2. The most common haplotypes were found as 263 G, 315insC, 310 C, 152 C, 195 C in HV2 region and 16126 C, 16223 T, 16294 T, 16189 C in HV1 region.

To increase the discrimination power in addition to HV1 and HV2 Polymorphic regions needs to determinate polymorphic SNP points.

PP-688

Forensic Geriatric Autopsies Between 2000–2010 in Antalya

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Background: Although our country have young population the number of>=65 year-old people has increased by %73.8 for last 20 years and constitute the % 7.3 of our 2011 population number according to address-based population census. Increase in elder population has correlated with the number of our >65 year-old autopsy cases.
Material-methods: Council of Forensic Medicine Antalya Morgue records were used. Death certificates and autopsy records of 3856 cases autopsied between the years 2000 and 2010 were studied retrospectively. 491 cases above 65 and over year-old were included. All cases were evaluated in terms of age, gender, cause of death, manner of death and toxicological outcomes.
Findings: Of 3856 forensic cases whose autopsy were performed during that period, %12.7 were at age 65 and over. Mean age was 73,4 (65–102) and M:F ratio was 3:1 (%74,3 male, %25,7 female). The most common death type was natural death followed by drowning. The ratio of %5.7 of>= 65 year-old autopsy cases has been increased to %17.5 by 2010.
Conclusion: Apart from other studies, drownings takes the first place in accidental deaths since our city is in tourism region.

Future studies are warranted due to correlation between increased elderly population and forensic elderly deaths.

PP-689

Evaluation of Autopsy Findings Died From Explosion in Antalya: 7 Explosions, 12 Cases

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In this study, we retrospectively examined autopsy reports of cases died from explosions between 2005 and 2011 and identified the manner, scene and causes of incidents. We pointed out the increasing number and frequency of this cases, especially from terrorist attacks, explosions which cause injuries and deaths. During the study period 7 explosion incidents had been occured and gave rise to deaths. Medicolegal autopsies were performed on totally 12 explosion death cases in Antalya Morgue Unit of Council of Forensic Medicine. Of those, 6 cases from terrorist attacks, 5 from accidental and 1 from suicidal explosion were died.

We evaluated autopsy findings and causes of explosions accompanied by literature. These cases emphasized the importance of autopsy findings in establishing the manner of death in explosion fatalities.

PP-690

The Criminal Evalutation Of The Material Under The Fingernail Due To A Case

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Purpose: The materials found under the fingernails constitute an important part of the biologic evidence group in Forensic Sciences. DNA analysis performed on epithelium cells, tissues particles, blood and hair obtained from under the fingernail has an important impact on identification of the victim and the perpetrator, and on resolving the case. On the other hand, the accurate interpretation and evaluation of DNA analysis of this biologic evidence frequently encountered in criminal cases holds an important place. The aim of this study is to determine on the case when the debris from fingernail originates from physical struggle or from close contact between two persons.
Material-method: A case that was referred to I.U. Cerrahpaşa Medical Faculty Forensic Medicine Department for determination of medico-legal findings in order to assess the origin of death was reviewed.
Case: A couple first met at a nightclub and get more intimate with each other because of the alcohol. At a late time of the night, they arrive to the man's apartment and spend the night in the same bed. They have intercourse. The following morning, the young woman was found dead resulted from general body trauma, outside of the building. The young man's genotype was determined as a result of DNA analysis on the collected biologic samples from under the fingernails of the young woman during crime scene investigation. He is accused of murder. Any superficial injury such as scratch or scrape were not found in the external examination of the suspect.
Discussion: In this reviewed case, the DNA analysis of the epithelium cells obtained from under the fingernails was misjudged by the court authorities and by the law-enforcement officers. The existence of a struggle or a resistance between the two persons was assumed. In order to talk about struggle, the altogether evaluation of various evidence is a medico-legal necessity. To accept the existence of a struggle, not only the presence of cells containing the perpetrator's DNA found under the fingernails of the victim but also tissues should be present. Even in this condition, the debris from under the fingernail is not sufficient, superficial injuries on the perpetrator's body caused by the victim should be found in order to support this diagnosis. In this case, there's no suspicion about the close contact between the deceased and the suspect prior to death. Therefore DNA existence under the fingernails of the deceased is an expected finding.

PP-691

Left-sided infective endocarditis caused by intravenous drug use –case report

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Intravenous drug use can have extremely negative long-term effects on physical and mental health. Users often develop skin abscesses, Hepatitis B and C, HIV, and endocarditis. Right-sided endocarditis is common in intravenous drug users because of nonsterile injection into the venous system. In 75 % of cases of intravenous drug abuse endocarditis, no underlying valvular abnormalities are noted and 50 % of these infections involve the tricuspid valve. Staphylococcus aureus is the most common causative organism. Although infective endocarditis is not the most frequent infection occurring in intravenous drug users, health care providers should always consider it as possible diagnosis when treating patients with a history of substance abuse.

In our case report we present the case of a 23 year old male who was admitted to the emergency department after intravenous Methylene-dioxypyrovaleron (MDPV) use. At the autopsy we found hydropericardium, pericarditis, a bacterial vegetation of the mitral valve and an infarct in the myocardium. The lungs were oedematous. In the abdominal cavity we found appr. 1200 ml ascites, the liver and the septic spleen was enlarged. A large, extended infarct was in the middle third of the spleen. The kidneys presented the signs of septical shock. Severe diffuse brain swelling, and a large, destructive apoplexy in the right hemisphere was present. In this uncommon case the endocarditis developed in the left-side of the heart, on the mitral valve and not on the tricuspidal valve, as in most cases.

Although infective endocarditis is certainly not the most common infection seen in intravenous drug users, it is the infection that clinicians should always think of when they treat patients with infectious complications of intravenous drug use. In most cases the victims are young people, whithout any previous symptoms.

PP-692

Two different genetic profiles from a bloodstain: which one is true?

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Background: Contamination, degradation or unsuitable storage conditions of biological samples may produce partial genetic profiles and amplification artifacts of difficult interpretation. Allele drop-out is one of the most frequent stochastic artifacts involving degraded DNA.

We report a case where a woman tested positive for alcohol tests performed on blood samples taken following the police custody, had doubts about the origin of the biological sample (blood) analyzed. After a few weeks she has required the comparison of its genetic profile obtained from a saliva sample with that obtained from the blood sample that had been preserved. A stain of blood sample was placed

on paper and was divided into four parts, one of these was immediately analyzed, providing a genetic profile that was not compatible with the genetic profile of the woman. Subsequently, another part of the bloodstain was underwent to genetic analysis providing a different genetic profile than the previous stain, but fully compatible with that of the woman.

Unexpectedly, two portions of the same trace have produced two different profiles.

Methods: DNA was extracted using QIAamp® DNA Investigator Kit (Qiagen). The amplification reactions were carried out using the AmpFlSTR Identifiler kit (Applied Biosystems). PCR reaction was repeated three times to confirm the result, as recommended by Gills et al. Electrophoretical analysis were performed using the ABI Prism 3130 Genetic Analyzer and GeneMapperID-X. v1.1 software.

Results and conclusion: Although the two genetic profiles were obtained from the same bloodstain, they differed for six markers. For a portion of trace all six loci have provided homozygote profile while for the other they showed heterozygote profile. We established that allele drop out involved the six homozygote STRs.

Prüm Treaty facilitates the exchange of DNA profiles between the databases of the EU states. The genetic profiles stored in the databases are obtained both by individuals suspected of a crime by both biological traces found at the crime scene. It is evident that the genetic profiles inserted in the database must adhere to stringent quality checks. Here, we have reported a particular case where we have obtained from the same bloodstain two apparently different genetic profiles, probably due to allele drop-out events.

Unfortunately, when the stains are recovered at the crime scene it is not always possible to perform more than one sampling from a stain and to have the reference sample to avoid any apparent errors in the determination of the genetic profiles.

PP-693

Inhibitory Effects of Microorganisms on Semen DNA

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Introduction: In forensic sciences, Semen is an important biological evidence for particularly sexual assault. Semen is sterilized and is contaminated as a result of infection originating from the individual him/herself out of the body, or with the microorganism in the environmental conditions they are in. In the forensic researches, one may be obliged to study with semen samples contaminated through different microorganisms taking place in scenes and tarried for a long time.

In our research, the inhibitory effect of microorganisms on DNA in the semen samples exposed to different environmental conditions by contaminating with microorganisms (bacteria/yeasts) on fabrics with semen samples on it, have been searched.

Material-method: In Cerrahpasa Medical Faculty Urology Clinic, 8 different fabrics were stained through semen samples obtaining from 16 people. These stains were kept for 1,3 and 6 months at 2–4°C, 22-24°C and 37°C after contaminating the stains 3 different microorganisms (E.coli, S.aureus and C.albicans) DNA Isolation of semen samples were performed through QIAamp®Mini kit (QIAGEN) Then, 16 STR locus associated with Y chromosome by using AmpF/STR Yfiler PCR Amplification Kit. Electrophoresis of PCR products were performed on ABI PR1SM® 310 device, by selecting DS-33 Matrix Standard, GS POP-4 and C Filter. Peaks obtained as a result of electrophoresis were analyzed on GeneScan 3.7 program.

Findings: As a result of DNA analysis of Semen stains contaminated through different microorganisms and kept under different heat conditions, it is detected that DNA profile was detected in the majority of the samples kept in the fridge and this is followed by room temperature and incubator.

Result: In DNA analysis contamination and particularly contamination through microorganisms are important problems. Microorganisms do not affect the quantity of DNA much but the quality. As a result of diffractions in the DNA, full profile may not be obtained. This event occurs remarkably in the samples in trace amount. In this study, 16 STR locus have been worked on semen samples in different environmental conditions and contaminated different microorganisms and according to this various results were obtained from the samples that were kept in fridge, incubator and at room temperature. Therefore, it is revealed that even semen samples obtained from the scenes in different times and temperatures are exposed to different conditions, they may be used in forensic samples by working on them through suitable techniques and methods.

PP-694

MtDNA control region sequence polymorphisms in a Turkish population

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The forensic application of mitochondrial DNA (mtDNA) typing requires large and regionally well-defined databases. To create the database for forensic identification purposes in Turkey, the whole mtDNA control region sequences were determined in a population of 100 maternally unrelated Turkish people living in or around Cukurova region in Turkey, using a fluorescent-based capillary electrophoresis sequencing method.

In whole control region, 161 polymorphic sites were noted. Nucleotide substitution rather than insertion/deletion was the prevalent pattern of variation. Sequence comparison of the control regions led to the identification of 100 mitochondrial haplotypes, in which 98 types were observed in only one individual and the other one type was shared by two individuals. Gene diversity was estimated to be 0.999.

The genetic characterization of these relevant data sets is fully consistent with other published mtDNA genetic variation. The sequence diversity observed in this data set makes it a valuable tool for forensic applications, especially when nuclear DNA is not available.

PP-695

Mutations observed at 16 autosomal STR loci in cases of paternity/maternity testing

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Knowledge about mutation rates and the mutational process of Short Tandem Repeat (STR) loci used in paternity testing and forensic analysis is crucial for the correct interpretation of resulting genetic profiles.

In the present study, we investigated the mutation rates in paternity/maternity testing data were collected from 270 confirmed paternity/maternity cases for autosomal STR analysis during 2006–2011 years period. The parenthood in each of these cases was highly validated (probability>99.99 %). Paternity/maternity testing were routinely carried out using AmpFlSTR PCR amplification kit and if necessary, Y-STR was added for male offsprings. Maternal and paternal meioses were studied and the average mutation rates concerning several types of mutations were determined. We identified 10 mutations at 5 STR loci. Single-locus mutation was observed in 8 cases, and mutation at two STR loci was observed in 1 case. The observed mutational loci

include VWA, D13S317, D8S1179, D16S539 and D18S51. No mutation was observed in eleven loci of sixteen researches. Of the mutations 7 were paternal source and 3 were maternal source. The highest mutation rate was observed with 3 mutations at vWA and D13S317 loci.

The observed mutational features for STRs have important consequences for forensic application such as the definition of criterions for exclusion in paternity testing and the interpretation of DNA profiles in identification analysis. In order to enrich the reference data of STRs mutations which are valuable for forensic application, we suggest the establishment of such database and ask the whole forensic community for data contribution including Turkey.

PP-696

Sociodemographic Characteristics of the Drug related Crimes; Between 2007–2009 Data of Adana City

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Drugs affect not only the person using them, but also the social order in which s/he or other people live. Today, drug problem is growing rapidly all over the world. However, as these substances are forbidden and their usage is a criminal offence, production, transportation, distribution and sale of drug requires an organization unit.

In this study, we aimed to reveal the sociodemographic characteristics of individuals who had committed drugs welding crimes.

The study group consisted of 280 individuals who volunteered to take part in our survey. All of the participants had faced a legal action from drug addiction in Adana between 2007–2009.

Our study population was between the ages of 16–58 (mean: 26.45). Of the 280 individuals, 68 % have an education at literacy level. The most commonly abused substance was found to be marijuana (67.3 %), followed by heroin (31.8 %) (smoking, and alcohol excluded). It has been determined that 70 % of these people weren't a social security holder.

In conclusion, it has been confirmed that the level of education and levels of other socioeconomic parameters seem to be very low in drug use. We suggest that actions regarding improvisation of educational and socioeconomical status should be taken,in addition to legal and law enforcement measures in the fight against drug use and traffic.

PP-697

Evaluation Of Physical And Biological Evidences As A Result Of Restructuring Of Crime Scene In Criminal Cases

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Purpose: The purpose of crime scene investigation is to find physical evidences to establish the link between wrongdoer, victim and crime scene. This is systematic and based on a scientific method. However, in most cases, investigation of crime scene for once is not sufficient. The crime scene must be investigated for a second time in order for evidences to be interpreted correctly. The purpose of study is to make a contribution to solution of crimes by re-evaluating physical and biological evidences in the light of scientific data through restructuring crime scenes over two cases.

Material-method: Two cases sent to I.U. Cerrahpaşa Medical Faculty Department of Forensic Medicine for detection of medico-legal findings in terms of determination of origin were evaluated.

1. A couple making acquaintance and coming closer on the same day passes the day and night together. The next day, young woman is found to have died as a result of general body trauma outside the building. He's found suspected and arrested for murder as a result of DNA analyses of biological samples taken from various parts of body of the woman and fingerprints obtained from different surfaces in the crime scene.
2. A newly married couple arrives at a hotel to spend their honeymoon. Towards morning, young woman is found to have died as a result of general body trauma outside the building. It is asked to relevant authorities whether stain found on the bed sheet in the room in the crime scene investigation is a blood stain, and it is decided through spot and Hem-Direct preliminary tests that it's a blood stain. Husband of the woman is arrested for committing a murder by thinking, through DNA analyses made on the bed sheet where the stain was found, that the trauma experienced by the woman was caused by oppression in the bed.

Discussion: In both cases, the fact that experts evaluating physical and biological evidences obtained from the crime scenes in the laboratories don't see the crime scenes at all or details about the crime scenes aren't reported to them leads these experts to make just a mechanical evaluation. The fact that no multi-disciplinary team work can be carried out in the crime scene, units working in this field have poor written and verbal communication skills and they don't perform a collective and integrated work causes courts to make wrong decisions and, accordingly, justice to lag.

PP-698

Evaluation of 100 cases of age determination admitted to Çukurova University Department of Forensic Medicine

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Estimation of age is very important part in forensic medicine practise. As accurate birth records are sometimes lacking in our country, estimation of age is often needed to be carried out. The cases are generally forwarded from courts and prosecutors for several purposes, including marriage, pregnancy, miltary service issues, job applications, and educational issues. Expert reports based on bone x-ray graphies are demanded in such cases.

A monthly average of 25 cases of age estimation are evaluated in the Department of Forensic Medicine, Çukurova University. We evaluated the last 100 cases applied to our department. The data, including age according to state ID, age declared by the case himself/herself, height, weight, and teeth count were recorded. The cases were examined based on x-rays of postero-anterior left wirst, antero-posterior left shoulder, antero-posterior and lateral left elbow and pelvis.

The aim of our study is to minimise the legal problems regarding abuse of age's smallness for affecting criminal and the grievance of people because of problems which derived birth and ID entries.

PP-699

Investigation Of Animal Hair Using Polarized Light Microscope

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Identifying and distinguishing between animal hairs is an important task in wildlife forensic investigations. For this reason a variety of techniques are used in examination of sample types of animal hairs. The simplicity, cost and time effectiveness of PLM make it a useful tool and have allowed it to become one of the most widely applied techniques in the examination of animal hairs. In this study, conducted on 30 different samples, a polarized light microscope was used to compare the surface morphology, diameter and internal structure of animal hairs. According to the results of this study, it was confirmed that assessment of animal hair as evidence using polarized light microscope is an effective technique in wildlife forensic examination.

PP-700

Application of UV/Vis/NIR Spectrophotometer, XRF and SEM-EDS in forensic cases using microanalysis on glass samples

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One of the most tangible pieces of evidence frequently found in forensic cases is glass, which because of its physical, chemical, mechanical and optical properties presents the kind of evidence that can be analyzed using many different methods. The aim of this study was to establish the definition and differentiation of glass samples by looking at their color and elemental analysis, particularly when the evidential glass is of unknown origin. Color and elemental analyses were conducted on 35 samples using a UV/Vis/NIR Spectrophotometer for color analysis, and XRF and SEM-EDS apparatus for the elemental analysis. An attempt was made to differentiate between the apparatus, and to determine whether there is a correlation between the apparatus and the observations of the study. It was concluded that reliable results in recognizing and differentiating glass can only be obtained by examining several oxides, (Al2O3, Fe2O3 and SO3) together. Also by using CIE Lab color space in regard to the a* and b* values, two glass samples appearing to the same color were separated based on the tone.

PP-701

Reliability and Validity Study of Hwalek-Sengstock Elder Abuse Screening Test (H-S/East)

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Physical disabilities and self-care deficits of elderly leads serious problems for their family members, especially their caregivers. Both sides need support in this care relationship. When this support can not be met adequately on time, elder abuse and neglect come up. Although a significant portion of elder abuse is not reported or detected, about 4 to 10 % of elderly is estimated as suffering from abuse or neglect. Elder abuse is a problem all around the world, especially in the last decade. Although there are studies related to health problems of elderly, there are limited number of studies on neglect and abuse of the elderly due to the sentimentality of the topic. Neglect and abuse issues encountered during the elderly period of life have different evaluation methods used in the studies. These differences cause difficulties in terms of comparisons of the study results. In the literature there are scales developed for this subject. Similar assessment tools are needed in our country.

The purpose of this study was to determine its reliability and validity of the Turkish version of the "Hwalek-Sengstock Elder Abuse Screening Test (H-S / East)" developed for determining of abuse or neglect in elderly.

H-S/East is a 15-item scale composed of three-dimensional structure including direct abuse, characteristics of vulnerability, and potentially abusive situation. After having translated in accordance with guidelines, expert opinion has been taken for content validity and cultural adaptation. The test-retest reliability is investigated by t-test for discriminant validity, and test-retest ICC was analyzed for consistency. The data collection phase for construct validity and internal consistency coefficients is in progress so has not been calculated yet.

The number of people interviewed so far is 42. The mean age was 75.3±5.9 and 61.9 % were female. Approximately half of the participants were graduated from primary school, 61.9 % married, and 83.3 % used drugs regularly. According to the t test used for, it is seen that women are facing more direct or potential abuse than men. Victims of violence in any period of his/her life are significantly more exposed to abuse in all three dimensions ($p < 0.05$). In the test-retest reliability, ICC values for direct abuse, characteristics of vulnerability, and potentially abusive situation were 0.88, 0.73 and 0.80, respectively.

Determined sociodemographic variables used for distinguishing of the scale seemed to be sensitive, and test-retest assessment showed a high level of consistency. The advanced validity study of the scale is ongoing.

PP-702

An unusual case of bilateral carotid chemodectoma in military pilot: aeromedical and medicolegal aspects

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The present work illustrates a clinical case of a military pilot suffering from bilateral carotid chemodectoma who was assessed and evaluated in terms of aeromedical and medicolegal aspects for his fitness to fly. In view of the lack of specific guidelines and/or regulations, both national and international, we choose to follow a multidisciplinary clinical approach that included aero-physiological tests in the hypobaric chamber, in order to identify a standard protocol that could be used as reference for similar future cases, where this kind of assessment is necessary.

PP-703

Pulmonary Silicosis in a Handicraft Worker – Case Report

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Introduction: Silicosis is a respiratory disease caused by breathing in (inhaling) silica dust. Silica is a common, naturally-occurring crystal. It forms dust during mining, quarrying, tunneling, and working with many metal ores. Silica is a main part of sand, so glass workers and sandblasters are also exposed to silica. But it is not common to affect handicraft workers. We report a case of pulmonary silicosis in a handicraft worker without proper use of personal protective equipment.

Methods: Case report and review of literature.
Results: A 50 year old female patient came to the clinic with dry cough. She reported working with glass craft including sandblasting, a technique used for decoration of the pieces. On physical examination she had coarse breath sounds and some inspiratory wheezing in the upper chest. Laboratory tests were normal as well as pulmonary function tests. Chest radiography showed small dense nodules in the lung apices, and high resolution chest computed tomography showed the presence of multiple pulmonary nodules less than 1 cm, compatible with diffuse nodular infiltrates, fibrotic changes, distortion and coalescence more pronounced in the upper lobes of both lungs. Transbronchial lung biopsy showed histiocytic infiltration micro-nodular pulmonary fibrosis. Through these finds we established the diagnosis of pulmonary silicosis, related to handicraft activity with sandblasting.
Conclusion: Silicosis is the most common occupational lung disease worldwide, it occurs everywhere but is especially common in developing countries such as Brazil. Although it is common in sandblasters, we found no reports in the literature of domestic workers with silicosis. The problem is that because they do not have occupational guidance, these workers can go for years without knowing the risk they are suffering. There must be some way to warn and educate these handicraft homeworkers to avoid the risk of severe disease.

PP-704

Bill Of Exchange Forgery With The Signature That Was Achieved By Making Gap Like A Window; A Case Report

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In this case from the Document Examination Branch of the Council of Forensic Medicine; we noticed the importance of detailed examination of document, the conditions that need attention by document examiner and people who draw up a document, in forensic document forgery. The case is about two bills of exchange, one adhered to other, signature was taken by making a gap, like a window, on the bill upside and the signature on the inferior bill was used to create a new bill. Form of this forgery is noteworthy because it is seen rarely. Physical findings in the document was assesed with Video Spectral Comparator (VSC) device. At the end of the examination we concluded that the signature was belong to the deptside but physical details (glue dispenser relics, paper fibre loss, singature caligraphy discontinuity) of the document stated that the bill was forged.

PP-705

Investigation of class characteristics in English handwriting of Filipino,Egyptian and Indian

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This paper investigated the class characteristics in English handwriting of, Filipino, Egyptian and Indian.

Sixty handwriting exemplars were collected and features such as letter designs, pen-lift,letter spacing and embellishments were studied. A number of characteristic features to the different peoples were identified, which confirmed the impact of their native language writing systems on English handwriting.

PP-706

Mass Media Linguistic Approach to Transgender Crimes' News in Turkey

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Objective: Media coverage in response to a hate crime brings widespread recognition to the very serious problem of violence against transgender people. However, media coverage can be inaccurate, uninformed, and disrespectful. This research aims to review the mass media's linguistic approach towards transphobic hate crimes occurred in Turkey between 2009–2010.
Method: The news about 12 transgender crimes that occurred between 2009–2010 was obtained from Media Monitoring Center and studied with content analysis template especially prepared for this content.
Results: Assaults towards transgender people don't attire media's attention than the death resulted events. The linguistic context of the assault towards transgender people and of the death resulted events has a different tone of language. In assault cases, use of adjective is minimal, revelation of the legal (masculine) name of the victim is absent, and the sex profession of the victim is not mentioned. On the contrary, in death resulted events, use of adjectives is very common, legal (masculine) names and profession of the victims are revealed, brutalization and narration of the crime is frequently used as a reader magnet.
Conclusion: The mass media approaches to transphobic hate crimes with images and language that are openly derisive, sensationalistic. This unfair and unbalanced news further degrade the victim. Except for a handful of high-profile cases, hate crimes against transgender people remain largely ignored badly reported by the mass media. Therefore we are thinking that it must be designed a model research to analyze if there is any correlation between transphobic hate crimes and linguistic approach of mass media.

PP-707

The Objectivity of Forensic Experts and Structuring Forensic Sciences

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Introduction: There is a period when forensic sciences' services in Turkey were examined under spotlight from every angle. The questions such as "By whom and how these services will be provided?", "How will 'independence' and 'objectivity' be insured?" are at the focus of intense debate. This topic and a search for new model regarding forensic science's structure are on agenda, not only in Turkey but also worldwide. In addition, terminology confusion of "forensic medicine" and "forensic science" is an ongoing debate. This study is planned to inquire the factors affecting experts' objectivity and their results.
Material method: The participants who work in the forensic sciences field were asked to answer a survey of 56 questions. The identity information of the participants was not gathered. In the survey, participants' opinions about topics such as "work load, corporate experience about specializing, the corporate, politic and media effects that they are feeling while performing their jobs, their evaluation of their profession on intercountries level and non-governmental organizations they're affiliated to and its effect to their jobs" were questioned.
Findings: 64 % of the participants have a bachelor's degree in medicine. 2 % is bachelors of laws and 1 % has psychology degree. 65 % of those who have completed a master's degree graduated from forensic

science field. 16 % of the participants don't have a post-graduate degree. 52,5 % of those who provide expert opinions stated that they only deliver written expert opinion, 18,6 % noted that some of their expert opinion is written. 31,4 % of those who provide oral expert opinion expressed that they served as expert in court 1–10 times, 6,8 % 10–20 times and 10,2 % more than 20 times. 44,1 % of the participants informed that new regulations in The Code of Criminal Procedure affected the expert practice of the organization they work for. 16,1 % expressed that new regulations didn't affect expert practice and 39,8 % stated that it partially affected.

Conclusion: The experts have variable opinions on the effects of forensic science structuring on experts depending on the organization they work for; a difference was detected ($p<0,05$). It is observed that the ratio among the members of The Council of Forensic Medicine on those who think that 'forensic science structuring has an impact on the experts and those who disagree is very close. Correspondingly, the majority of the University members agreed on the possible effects of the forensic science structuring on the experts.

PP-708

Violence against physicians in Barcelona, Spain

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Background: Staggering rates of verbal and physical violence against healthcare workers have been documented worldwide. Despite increasing concerns about violence at work, unfortunately it may not be identified as a real and noteworthy problem until there is a critical incident with casualties. Therefore, underreporting is the norm.

The WHO stands that violence in the health care sector may constitute almost a quarter of all violence at work and that altogether it may affect more than half of health care workers. Comprehensive data on the incidence of violence in the Spanish health care sector do not exist. The patterns of violence in Spain health care system remain largely unknown and inferences still have to be drawn mainly from the international literature.

Outside our borders, a range of different strategies and procedures to reduce the incidence of violence has been implemented. The National Health Service in the UK adopted in 1999 a comprehensive zero-tolerance policy. Any comprehensive violence prevention strategy requires a range of organisational and administrative elements to help control the risks. In Spain different governmental and institutional strategies have been launched.

The Barcelona's Official College of Physicians (COMB) participates in and contributes to different initiatives and mechanisms to reduce and eliminate the risks associated with work-place violence.

Methods: We present the analysis of the COMB's activity since 2003.

Results: The COMB, a pioneer in Spain, launched in 2003 the Observatory of Physicians Security and contracted a compulsory insurance that covers any claim related with physicians who suffer violence at workplace. In 2004, the COMB conducted a survey among its members in which one third of physicians reported having experienced a violent episode during his/her career, being more frequent verbal aggressions (44 %) than physical aggressions (28 %) and threats (26 %) and predominantly in the Emergency Department (45 %). According to these data, the COMB developed a guide to prevent and manage violence against physicians at work. Since them the COMB has been helping physicians in this area although it wasn't until 2010, that the Violence against Physicians Unit (UIVCM) was created. Its aim was to perform comprehensive advice, both at law and in security. The UIVCM works closely with public prosecutors and police.

The reported data contributes to the understanding of patterns of violence at work against physicians in Spain.

PP-709

DNA Evidence on the Mask

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Background: DNA analysis is a powerful tool because each person's DNA is unique (with the exception of identical twins). Therefore, DNA evidence collected from a crime scene can implicate or eliminate a suspect, similar to the use of fingerprints. DNA evidence has become an increasingly powerful tool for solving crimes. New technologies are more widely used. The crime scene investigators are learning to use DNA evidence more effectively. For years, law enforcement officials have used DNA to solve violent crimes, such as homicide and sexual assault. Collecting DNA in property crimes, such as robberies dramatically increases the number of suspects identified.

Case: This case is about an armed robbery. Investigators found a mask, made of cotton fabric in the crime scene. The mask was sent to Council of Forensic Medicine, Group Presidency of Ankara to investigate any hair or biological residue on the mask and match it with the suspect.

Methods: We found two saliva stains and three hair strands on the mask. DNA was extracted from the stains and one of the hair strands. PCR amplification of 15 STR loci was performed by using AmpFlSTR® Identifiler® PCR Amplification Kit. The amplified products were genotyped on ABI 3130 xl Genetic Analyzer.

Results & conclusion: The resulting DNA profile from the saliva stains and one hair strand on the mask were the identical male profile. This profile was matched with the suspect. This case has shown the importance of DNA profiling of the samples found in the crime scene.

PP-710

Who Smoked the Cigarette: Male or Female?

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Background: Mutations can cause a failure in amplification of sex chromosome-specific products. It results an incorrect gender identification. Several studies have reported mutations in the Y homologue of the amelogenin gene which can cause typing of males as females. Failure to amplify Y homologue can result unintended consequences in cases of criminal investigations.

Case: Four cigarette butts from the crime scene, were sent to Council of Forensic Medicine, Group Presidency of Ankara to do DNA testing.

Methods: DNA was extracted from the cigarette butts using Qiagen BioRobot EZ1 workstation with the EZ1 DNA Tissue Kit. DNA was quantified by Quantifiler® Duo DNA Quantification Kit using ABI Prism® 7500 Real-Time PCR System. PCR amplification of 15 STR loci and a gender determination were performed by using AmpFlSTR® Identifiler® PCR Amplification Kit. PCR amplification of 16 Y chromosomal STR loci was performed by using AmpFlSTR® Y-filer® PCR Amplification Kit. The amplified products were genotyped on ABI 3130 xl Genetic Analyzer.

Results: Male quantitation values of the butts were higher than the human quantitation values (male/female ratios were high). Normally the expected profile is male. But interestingly two different female DNA profiles were obtained from the butts. PCR was performed with another Kit (Powerplex® 16, including amelogenin locus), but Y chromosome peak was not observed. We suspected that there could be an amplification failure in that locus. Therefore we applied Y chromosome STR analysis.

Consequently we obtained identical Y chromosome STR profiles from four butts.

Conclusion: Quantification of human and male DNA should be done in samples found in the crime scenes. In this manner we can confirm the gender of the person by the quantification methods. It provides convenience to investigators while searching the suspects.

PP-711

Amplification failure in DNA Profile

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Background: DNA testing has become the most accepted method to determine identity within the legal and forensic communities. In most cases, DNA results are accredited for detecting the biological father by the courts. DNA analysis confirms or excludes an alleged biological father or mother.

Case: Child, alleged father and mother's biological samples were sent to Biology Department in Council of Forensic Medicine for paternity and maternity testing. We compared the alleged father and mother's DNA profiles with the child's.

Methods: DNA was isolated from buccal svabs and blood samples by using QIAmp® DNA Mini Kit and Qiagen Biorobot EZ1 workstation with the EZ1 DNA Blood Kit. PCR amplification of 15 STR loci was performed by using AmpFlSTR® Identifiler® PCR Amplification Kit. The amplified products were genotyped on ABI 3130 xl Genetic Analyzer.

Results: We analyzed maternity and paternity with 15 autosomal STR loci and found a mismatch in only one of the alleles of the D2S1338 locus in the child. One of the alleles in D2S1338 locus was absent in mother. We detected "25-25" in alleged father, "20-20" in alleged mother and "25-25" in child. We suspected an amplification failure in that locus. Then we applied another autosomal STR PCR kit (Investigator® ESSplex Plus Kit) and obtained a result of "20-25" at D2S1338 locus. Consequently alleged father and mother were reported as true parents.

Conclusion: If there is an amplification failure in DNA profile, we should apply another autosomal STR PCR kit, including different primers.

PP-712

Availability of forensic soil examination in the investigation of Crime Scene

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If it is set out from Dr. Edmond LOCARD's principle known as "Every contact leaves a trace", the soil samples obtained from crime scenes are important physical evidences for the criminal investigations. The forensic examination of the soil has important contribution to crime investigations which don't have eyewitness, video and phone records, fingerprints or footmarks. In this context, the forensic soil can be defined as a layer of loose ground including free inorganic and organic compounds and covering the crust of the Earth.

In this study, the preliminary data from a project respecting the evaluation of soil samples taken from the crime scene and corpse during the murder investigations were presented. For this purpose, polarizing microscope studies, XRD, XRF and SEM techniques were discussed.

Within this scope, the soil evidences were examined from over 13 events in the last six months of 2011. Macroscopical and microscopical studies regarding the mineral and chemical composition indicate that the murder was committed in a different scene in eight of these cases and then moved to the scene where the corpse was found. In other five of these cases, the corpses were found in the execution scene. This determination has been made by the comparison of the soil samples taken from the corpse, crime scene, house, car and similar belongings. Positive results were obtained from twelve cases. In this study, the judicial determination of a criminal offense and the methodology of using soil samples are discussed.

PP-713

The views of municipal police officers about workplace violence: A focus group investigation

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Abstract: During stress environmental demands exceed adaptive abilities, generating psychological, emational, behavioural and biological changes that may expose subjects to risk of physical and psychologial disorders. In a metropolis, municipal police officers have to cope with many environmental stressors on a daly basis. Violence is a job stressor. The aim of the research is the reasons, types and indications of violence directed to municipal police officers by their society and also to point out the municipal police officers views about her role as far as violence Is concerned. This study has been carried out among municipal police officers at Izmir Metropolitan Municipality. Focal group interviewing method-a qualitative research type has been used in order to attain the target of the study. The interview has been applied to a group, each consisting of eleven, married, divorced or single municipal police officers. The subject guide, covering the topics designated above, has been used and the topics have been discussed in detail throughout the interviews. These interviews have been performed by the researchers and audiotape recodings of the interviews have been obtained. One researcher was moderator, and two observers. The moderator supplied the clearity of open questions and the participation to interview. These recordings have been deciphered and interpreted. It has been found out that the views ol the municipal police officers have entirely been formed by their own life experiences. Therefore, the views of married and divorced municipal police officers were closer to reality. However, none of these groups seemed to have sufficient information in handling violence in the professional way. In conclusion, the municipal police officer who have an important mission for the health of society yet his/her own health wellbeing needs to be protected. Violence was an important and frequent risk factor of this study group.

PP-714

Evaluation of Forensic Cases Admitted to a Child and Adolescant Psychiatry Clinic

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Introduction: Forensic psychiatry practices differ from a country to the other due to their different legislation. In Turkey there is no additional special training in the application of psychiatric knowledge. This work presents epidemiological data of adolescents and children whom judges (89 %) or the department of forensic medicine of our faculty (11 %) referred to our clinic.
Method: The cases that we detected while executing our profession were not evaluated. 98 cases between May 2006 and March 2012 were analyzed retrospectively, in terms of sex, age, psychiatric examinations, type of crime and mental capacity ratio.
Findings: The majority of subjects were girls (64 %). We were mostly assigned in 12 % of cases if the child is about to perceive the meaning and results of the juridical act and about to investigate the existence of a significant lack of ability to direct behaviors in course of the crime; in 69 % of cases if the victims of physical and sexual child abuse have a lasting mental health problem as a result of the case and in 10 % of cases which parent is proper for the childs guardianship. 33 % of suspected were on trial of sexual abuse, 17 % were on trial of homicide, 41 % were on trial of thievery. Suspected were diagnosed with post traumatic stress disorder in 39 %, with mild to severe depressive episode in 8 %, with anxiety disorder in 8 %, with conduct disorder in 8 %, with gender identity disorder in 8 %, as substance user in 8 %, with speech articulation disorder in 8 %, with mixed anxiety and depressive disorder in 8 % and with no diagnosis in 42 % of cases.
Conclusion: Clinicians should work within the law and organizational contracts, and pay heed to professional and general health care ethics and guidelines. The requirements of these usually overlap but may sometimes be different or even contradictory. Consequently, although this article is primarily about ethical deliberations, medicolegal issues and guidance documents will also be considered.

İncreasingly, mental health professionals being called upon to offer consultation to staff working in medico-legal settings and this is becoming an essential part of a child psychiatrist's job. It's important for the professional undertaking such work to undergo regular training in the legal aspects of child mental health.

PP-715

Study Of The Normal Internal Organ Weights of Human

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The aim of this study is to standardize the organ removal and weighing process (brain, heart, liver, left lung, right lung, left kidney and right kidney), and determining organ weights according to age, sex and body mass index (BMI) and thus make a contribution to the will be national database.

Material-method: This study has been carried out within the cities Samsun between 16.02.2004-30.06.2006, and within İstanbul between 01.07.2006-30.09.2006. From a total of 349 forensic autopsia subjects, internal organ (brain, right lung, left lung, liver, heart, right kidney and left kidney) weights were measured and data were analyzed via SPSS 10.0 software. Statistical difference between organ weights according to age, sex and BMI were sought, and when present, correlation-regression analysis were carried out.
Results: Of the 349 subjects, 265 (75.9 %) were male, and 84 (24.1 %) were female. 46 (13.1 %) of the subjects were 18 years old or younger, 259 (74.2 %) were between 19–60 years, and 44 (12.7 %) were 61 years old or older. Within subjects 19 years old or older, average weights of brain, right lung, left lung, liver, heart, kidney right and left kidney were found to be 1386,28±137,33 gr, 588,85±254,56 gr, 502,70± 219,69 gr, 1584,61±424,79 gr, 361,85±106,96 gr, 138,09±34,07 gr and 147,27±36,16 gr respectively.
Conclusion: In both sexes, it has been found that within the 0–18 years old subject group, internal organ weights show significantly correlated increase with increases in age and BMI. Also, within the subjects 19 years old and older, it has been shown that organ weights change according to age, sex and BMI.

PP-716

The Knowledge, Attitude And Mood Effects Of Forensic Autopsy Education To The Medical School Students

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Background: Although autopsy practice is an indispensible part of medical education, it is a traumatic process. During the autopsy practice, we considered that students who attended to “Medicolegal Aspect of Death” TASK application were affected emotionaly and physically. We aimed Dokuz Eylül Üniversity Faculty of Medicine of Class 5 students after the TASK application, changing of knowledge, attitudes and changes in the affected states to assess the physical and emotional.
Method: Our study is focused on Dokuz Eylül University Faculty of Medicine Class 5 students who attended to “Medicolegal Aspect of Death” TASK programme in 2009–2010 and 2010–2011 academic year, and for control group 2009–2010 academic year of Class 6 and 2010–2011 academic year of Class 1 students. We investigated the sociodemographic characteristics, knowledge and attitudes about forensic autopsy of class 1,5 and 6 students with “Examination of attitudes about forensic autopsy questionnaire”, comments relating to the application of forensic autopsy of class 5 and 6 students with “comments relating to the application of forensic autopsy questionnaire”, before and after application of the autopsy findings in terms of levels of anxiety of class 5 students with “State-Trait Anxiety Inventory” and somatization findings of class 5 students with “Visual Analog Scale Test-Bradford Somatization Inventory”
Results: 422 medicine students who are 86 (% 20) class 5, 227 (%54) class 1, 109 (%26) class 6, participate the questionnare. %98 of students think that medicolegal autopsy can reach reliable information about cause of death, %96,2 of them think that medicolegal autopsy contribution to their medical education and %93,5 of them think that non- forensic expert physicians is not appropriate to the application of forensic autopsy according to examination of attitudes about forensic autopsy questionnaire. Ideas about autopsy cases were done under the appropriate physical infrastructure, forensic autopsies guidance states for health care planning, and desire to be a forensic medicine expert significantly reduced rate with increasing years of education of the students. Class 5 students' anxiety levels increase in the first encounter with post-mortem practice, the last day of TASK's primary decrease in

anxiety level, female students had higher anxiety levels than males. Somatization symptoms decreased after the application of autopsy.
Conclusion: We planned to discuss that; what need to be done for ensure compliance of students' knowledge, attıtudes and moods changes, prior, during and after autopsy application.

PP-717

Opinions of Students of Medical Faculty of Hacettepe University towards Forensic Medicine Specialty and Forensic Medicine Specialists

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Background: Forensic Medicine Specialty is differed from other medical branches since it requires examination of dead bodies besides its clinical aspects. Although, this differentiation attracts considerable interest of students, it can occasionally be unpleasant for others. It was aimed to evaluate 6th year students' opinion towards Forensic Medicine Specialty and Forensic Medicine Specialist, after attending first autopsy.
Method: After autopsy practice, a questionnaire, composed a question with multiple choice related to Forensic Medicine and two open-ended questions related to Forensic Medical Examiner, was directed to students. Students' answers to open-ended questions were separately evaluated by two different specialists and agreed data was included in the qualitative study.
Results: A total of 320 interns were questioned whether they wanted to be Forensic Medical Examiner, only 12 % of them were positive. Open-ended questions related to Forensic Medicine Specialty were answered by 253 students. Respectively, they determined Forensic Medicine Specialty as difficult (n=89, 35.1 %), necessary and important (n=73, 28.8 %), respectable (n=23, 9 %), interesting (n=28, 11 %), worthless in our country (n=11, 4.3 %).
Conclusion: Evaluation of 6th phase students' opinion towards Forensic Medicine Specialty and Forensic Medicine Specialists which are anticipated to be different from other medical branches revealed that they emphasized the difficulty to work in this field.

PP-718

Gaziantep University Medical Faculty Department Of Forensic Medicine 2000–2010 Between The Evaluation Of Cases Sent Judicial Authorities Claim Addictive Substances

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Objective: İn this study we aimed to investigate the socio-demographic characteristics of the patients and the characteristics oft the drugs that they claimed to use with literature which sent to the the Gaziantep University Department of Forensic Medicine.
Method: We examined retrospectively, the patient reports, computer records of the patients who were admitted to forensıc medıcıne in the last decade. All the data were collected and analyzed using descriptive analysis, chi-square and one-way ANOVA.
Result: The sample of the study consisted of 325 patients who use substances and were treated in the last decade. The average age of the sample was 27.58 (sd=10.43) and

Beginning age to substance use was 18.80 (ss=8.20). Most of the patients were male (88.3 %) and 11.7 % of the patients were female. Multipl substances (30.8 %) and cannabis(26.4 %) were the most frequently used substances. The majority of the patients in study were young. Beginning age of inhalant use was significantly young. Un employment rate was high (38 %). Patients who use heroin had higher socio economical status and they had emigrated from a foreign country. A higher proportion of inhalan tuserslived inshantyt owns as opposed to properflats.
Conclusion: According to Department of forensıc medıcıne's data, substance use is an important problem that effected young people. Epidemiologic studies are needed.

PP-719

A Retrospectıve Study On Forensıc Deaths That Occurred In Gazıantep Provınce Between Years Of 2005–2008

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In this study, a retrospective analysis of 2372 forensic death cases were utilized between years of 2005–2008 in Gaziantep province. The intention was to get a profile on forensic deaths in Gaziantep province to enlighten cases to get probable precautions.

Forensic cases considered were 1863 male (78.9 %) and 509 female (21.5 %). According to notification taken by the public prosecuter; the highest number of forensic death cases were noticed in age group of 15–49 with 51.7 %. It was also found that 1352 (57 %) the cases were mostly caused by accidents. As postmortem examination, only 708 cases (29.8 %) were exposed to autopsy and among them only 1172 cases (49.4 %) were examined by only a single practitioner. Upon examination on deaths occured for the postmortem examination of the forensic death cases that had occurred, the crushing head traumas were taken in the 1st place having 38 % ratio in overall search.

Deaths which the causes cannot be proven with missing objective data uncertainties have to be evaluated as forensic death cases. Autopsy is the most significant method to determine the cause of death and the mechanism of death. In order for the forensic autopsies to be performed in a correct and complete manner, it is essential to have a forensic expert to during the postmortem examination. The point is that the number of forensic experts must be increased. In addition to that there must be an obligation to have a forensic expert during postmortem examination.

Whatever the cause of death is, when it is utilized as forensic case, different solutions must be produced by the experts on the subject to improve the infrastructure on postmortem examination. This will definitely require the expertise knowledge, and legal regulations to perform a proper autopsy for all death cases.

PP-720

Diagnostic Elements for the Estimation of Document Age: Case report

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One of the most important issues in document examination is the dating of the document. Although there are many studies on this issue, it is not yet possible to determine the exact age of the document only by ink examination. However, properties of the document and additional diagnostic features may provide important clues about the dating of the document. We report a questioned document where the nature of the paper used in the document, wear and tear of the document, the old nature of the stamps on the document, efforts of updating the telephone numbers written on the debtor address part of the document contributed to estimation of the time of issuing of the document.

PP-721

Forgery of Prepaid Mobile Phone Minutes: case report

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A prepaid mobile phone minutes card was referred to the Questioned Document Examination unit of Physics Department of Council of Forensic Medicine for evaluation of forgery. The examination was carried out by VSC 6000-HS device and it was detected that both the right and left side of the prepaid card having two different colors and "30" was detected in the price site. There was also a level difference physically between two colors' shift. Upon examination with horizontal light in VSC 6000-HS device, level difference in left half of the prepaid card was detected to result from additional labeling of a forged paper. When the additional paper was removed, the original figure was seen as "5". So, "30-5=25"; the total unit for the forgery was 20.

In conclusion, we strongly advice both for experts and consumers control the cards by fingertips for uniformity of the surface. We also emphasize the importance of usage of horizontal light of the VSC 6000-HS device for these cases.

PP-722

DNA quantification: a tool in forensic genetics applied to sexual assault cases

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In Forensic Genetics, DNA analysis is performed to obtain a genetic profile from an evidence sample, which, is then, compared with the victim and suspect(s) genetic profiles, to determine their contribution to that evidence sample. However, forensic biological samples can be present in low quantities, and also be exposed to different environmental insults leading to DNA degradation and its contamination by inhibitor compounds. Thus, it is desirable for the forensic expertise to have useful information about the forensic sample quantity and quality prior to STR amplification and analysis.

New methods in Forensic DNA analysis for detecting, preserving and quantifying DNA are continually being developed. Since many forensic evidence samples, mainly those resulted from sexual assault cases, are often composed by a mixture of unbalanced male/female DNA mixtures, a new Real Time PCR quantification approach has been developed in order to quantify the relative male/female DNA ratio. This methodology contributes not only for total DNA determination, but also to ascertain the presence and quantity of male DNA for autossomal and Y-STRs amplification in a single highly sensitive RT-PCR reaction.

DNA from samples related whit 30 sexual assault cases, was, extracted with PrepfilerExpress™ Extraction kit in the AutoMate ExpressDNAExtraction System. Samples were quantified in duplicate with Quantifiler® Duo DNA using the Applied Biosystems 7500 Fast Real Time PCR system. For concordance studies Quantifiler® Human and human male DNA quantification kits (Applied Biosystems) were used as directed. STR analysis was performed to correlate quantification results and the impact on autossomic-STR and Y-STR genotyping.

The Quantifiler® Duo detected quantities as little as 3.1 pg of total input DNA. In male/female mixtures, the comparison between male and female concentrations suggested which type of STR analysis might provide useful male genotype information. The results show that there is a correlation between total DNA/male DNA concentration ratio and the ability to detect male specific alleles in male/female DNA mixed samples.

The quantification results are important as a guide for the optimal STR analysis selection, such as autossomal STR, Y-STR or mini-STR, increasing downstream analysis success rates. In this work we present real forensic caseworks where the DNA amount and quality was an important guide for the selection of the appropriate STR amplification kit in order to increase the success of profiling in the first attempt, reducing the number of samples that need to be reprocessed and thereby decreasing the turnaround time in a forensic laboratory.

PP-723

Portuguese Colonial War (1961–1975): the role of forensic genetics on recently exhumed soldiers identification - preliminary results

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Background: During the Portuguese Colonial War (1961–1975), many soldiers were killed and buried anywhere in the battle field or into cemeteries, at the Portuguese ex-colonies - Angola, Guiné and Moçambique, without any identification placed at the graves.

In the last years, as it occurs in many other countries, assuming the social and humanitarian importance of having their bodies in appropriated burial place, and in order to, eventually, return them back to their families, whenever they ask for it, it was created the project 'Recovery of Memories' by the Portuguese government.

While some of the soldiers bodies were identified by means of forensic anthropology, for others only with genetics this task could be accomplished.

Materials and methods: Last year we received, at Lisboa Genetic Department, of Instituto Nacional de Medicina Legal e Ciências Forenses, skeletal remains from 10 soldiers, exhumed at Guiné-Bissau cemeteries.

Bones DNA extraction was promoted with enzymatic silica-based methods and automated methods. DNA quantification was carried out with the commercial method Quantifiler Human (Applied Biosystems). STR typing was carried out with commercial methods PowerPlex® 16 HS System (Promega) and AmpFlSTR® MiniFiler™ (Applied Biosystems).

Results and conclusion: Till now, it was possible to recover quantifiable and traceable DNA from 5 corpses. DNA quantification show results from undetectable quantity up to 0.024 ng/μL. We achieved, till

now, to complete STR individual genetic profile of one soldier body, and partial genetic profiles in four bodies. To enhance the possibility to achieve positive identification of the soldiers bodies with partial STR genetic profiles, we will take hand to mitochondrial DNA and SNPs haplotype study, when alleged relatives claim for these soldiers bodies.

PP-724

Drug Use and Adolescence

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The section about substance dependence in the Diagnostic and Statistical Manual of Mental Disorders does not use the word addiction at all. It explains:

When an individual persists in use of alcohol or other drugs despite problems related to use of the substance, substance dependence may be diagnosed. Compulsive and repetitive use may result in tolerance to the effect of the drug and withdrawal symptoms when use is reduced or stopped.

According the report " Turkey Drug Abuse" the mean age of first time use of solvents and inhalants is the lowest at 11 years.

In this study, the relationship between adolescent and drug use and drug addiction was examined. As it is known that the adolescent period is the most active and surging one of human life. In this period, young people can have some negative habits. There are many reasons for young people in starting drug use and addiction to it. In this study, both reasons and conclusions of drug use and drug addiction of young people were examined. Moreover, types and harms of drug and the ways of release from it were analyzed. This research showed us that the most important factors for use and addiction to drug are the effects of environment and friends. Moreover, it has been understood that family has a responsibility for both drug using of young people and struggle with it. The children who come from broken and troubled families are being introducing more easily with drug and they are being addicted to drug.

Aim: The aim of this study is to investigate the socio-demographic features of adolescents who have drug addiction, reasons about beginning use and becoming drug addicted, reasons why they use drug and results of using drug.

Material-method: Study was consist of 60 adolescents who were between 12 to 18 ages and appealed to Hospital of Psychic and Neural Hospital, and the questions which were prepared by researchers were applied to group.

Result: It was found that friends who use drug, affect drug use mostly. Girls, using drug, have a higher risk than boys about having antisocial friends. When we compared gender, the affect of friends was found different. Also, the age of beginning and the struggling with this problem, families have very important role.

PP-725

Profiling Of 6 New Mini STR Loci (D10s1248, D14s1434, D22s1045, D4s2364, D2s441, D1s1677) On Waited Blood Spots

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Introduction: Nowadays, STR loci are used for to determine paternity-relationship and identification of biological samples which were collection from crime scene. Also many populations in the world the gene frequencies are determined. About these loci DNA databases are created and used. So these loci have become ideal genetic markers in forensic sciences study. Even if multiplex PCR kits of these loci have been used, there has been cause of DNA typing in highly degraded forensic cases and trace amounts of biological samples [3]. For the solve of these problems, National Institute of Standards and Technology (NIST) had developed 26 new mini STR loci which is unlinked from the CODIS markers. Amplicons of these loci less than150 bp in size. Especially 6 of them (D10S1248, D14S1434, D22S1045, D4S2364, D2S441, D1S1677) amplicons are less than 125 bp in size. Blood stains are the most common biological evidence at a crime scene. Sometimes we don't know how much time has elapsed according as the shape of the event occurrence. The event over the weeks, months or even years may go. In addition these stains can be found on the various surfaces.

Purpose of this study; usability of these new mini STR loci on trace amount, worst protected and long waited biological samples. For this purpose, sensitivity of these loci on typing was determined on blood spots which were waited several surface and different time. Also it is aimed that to study these loci in routine forensic laboratories.

Material method: 200 µl blood sample of a volunteer was dropped on various surfaces (jean, t-short, upholstery fabric, towel, iron, knife hilt, laminate flooring and tile). These objects were waited for 1 week, 1 month, 3 months and 6 months. DNA extraction of blood samples was made with QIAamp® DNA Micro Kit (QIAGEN). PCR reaction of 6 mini STR loci was made according to our optimization study-Ünsal et al. PCR products were separated electrophoretically using ABI Prism® - 310 Genetic Analyzer (Applied Biosystems). Data from the ABI 310 was analyzed using GeneScan 3.7 program (Applied Biosystems).

Result: Finally, its determined that it is possible to identification with 6 miniSTR loci on blood spots which were waited for 6 months. But these times can increase to several years in further research. Also it can determine that the usability of this method on degraded other samples.

PP-726

A Retrospectıve Study On Suicides Deaths That Occurred In Gaziantep Provınce Between Years Of 2005–2011

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In this study, between 2005–2011, to commit suicide in the Gaziantep region of deaths occurring in a retrospective analysis was performed. Profile of fatal cases occurring in Gaziantep region by subtracting the result of suicide, causes and methods of suicide were identified and the source of the information belonging to the region aimed to the creation and suicide prevention measures that can be taken.

Total 334 cases, 235 percent (70.4 %) were male and 99 (29.6 %) were female. The most 169 cases of suicidal hanging method (50.6 %) have used a firearm respectively, after 85 (25.4 %), drugs and chemicals in 45 (13.5 %), fall down 27 (8.1 %) used.

The most 58 committed suicide in 2005 (17.4 %) and, respectively, in 2009, 56 (16.8 %) in 2007, 55 (16.5 %) in 2010, 47 (14.1 %) in 2008, 41 (12.3 %), 40 in 2006 (% 12.0) in 2011, 37 (11.1 %) was processed has occurred.

Suicides are the most the 21–30 age group 107 (32.0 %), and it occurred in, respectively, 11–20 age group, 64 (19.2 %), 31–40 age

group, 62 (18.6), 41–50 age group, 39 (11.7 %), 51–60 age group, 26 (7.8 %) followed by suicide.

Whatever the cause of death, all deaths considered as a forensic accordance with procedures complete autopsy should be performed. Appropriate conditions must be post-mortem examination by forensic experts in cases of suicides, with all the necessary equipment at a center of medical and human must be made complete.

PP-727

Evaluation of ‘¨’ in term of forensic document examination

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Since January 1, 2005 some applications were made by Turkish government to increase brand value and strength of the Turkish currency (Lira). First, the name of the Turkish Lira has been changed by removing six zeros as New Turkish Lira (YTL). Than in January 1, 2009 'new' word removed from the name of money. Central Bank of Turkey opened ‘Symbol of the Turkish Lira’ competition to increase the brand value of TL by international trademark and announced on March 1, 2012 ‘¨’ icon won. One of the major criticisms for the new symbol is similarity of ¨ to European Union currency symbol ‘€’ (Euro).

Similarity of the handwritings of ¨ to € in terms of forensic document examination is thought to bring many difficulties with it. This similarity may cause to born a great opportunity for cheque and bill of exchange cheaters. When writing by hand, sharp turn of ¨ is softer its original shape. After this point, adding a small extra curve to symbol may lead to appear many people who aggrieved of cheque and bill of exchange. Likewise convertibility of the word ‘Lira’ to Euro’ is another problem. İn terms of forensic document examination, all these problems should be discussed and their solutions should be sought.

PP-728

A case of disputed parentage with two incompatibility at str loci solved with traditional markers

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Worldwide data regarding the use of STR loci, currently validated for forensic purposes, and the availability of commercial kits have definitely shown, beyond reasonable doubt, that these loci are quite efficient and have adequate power to solve most paternity cases. In this paper we report on an interesting case in which two incompatibility were obtained at loci D13S317 and HUMCSF1P0. This apparent exclusion of paternity suggested the use of other DNA markers (STR, VNTR) and traditional markers which strongly corroborated the hypothesis of paternity, indicating that the incompatibility was to be attributed to two mutational phenomena. The paternity was also supported by statistical computations, which took into account the two mutated loci and the mutation rate of the STRs employed.

We analyzed 33 different markers, consisting of 22 DNA systems (18 STRs and 4 VNTRs) and 11 standard biochemical systems. We introduced a simple mutation process with estimated parameter, as previously published, and obtained the overall weight of evidence which strongly supported the hypothesis that the putative father was the biological father, but that two independent mutations had occurred. Based on this case, we agree with most Authors and with the recommendation of the American Association of Blood Banks suggesting that non-paternity is declared on the basis of exclusions at two or more independent loci considered.

PP-729

Evaluation of Methods to Process Bone Evidence for Forensic DNA Analysis

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After attending this presentation, attendees will be familiar with the research that has been conducted for processing bone evidence for forensic investigations. This study has the potential to make a significant impact on the processing of skeletal evidence for the forensic community and law enforcement agencies. Forensic analysis of DNA from bone can be important in investigating a variety of cases involving violent crimes and missing person cases. However, bone is difficult to process for isolating DNA. To remove the potential presence of co-mingled remains and eliminate contamination by animal scavenging, environment-borne inhibitors, and bacterial growths that interfere with forensic DNA analysis, the outer surface of the bone fragment must be cleaned, which is a labor-intensive and a time-consuming step. Thus, a simple and reliable processing method is highly desired. This study is to address this issue and evaluate two methods for processing bone specimens prior to DNA isolation. The mechanical and enzymatic processing techniques were compared in this study. The effects of these techniques on the yield of DNA isolated and the quality of DNA analysis were studied.

PP-730

Investigation of 17 Y-STR loci polymorphism in Turkish population

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INVESTIGATION OF 17 Y-STR LOCI POLYMORPHISM IN TURKISH POPULATION

Background: Today Y-STR DNA profiles are widely used for clarifying forensic cases. Y-STRs are the short repeat units on the Y chromosome and are inherited through the male germline without any change.

Y-STR test is a technique used for determining paternity or fraternity in forensic cases. It also provides to reach the suspect in sexual assault cases where the female autosomal STR is commonly dominant and in the scrapings under the nail where the victim’s DNA is dominant. In this sense, it becomes important to know the Y-STR allel frequencies in the population.

In our study, 600 Y-STR DNA profiles obtained from reference materials (blood, bloodstain, buccal swab, saliva) belonging to the individuals refferring to the Council of Forensic Medicine from various cities in Turkey were used.

Method: DNA analysis was made to the reference materials taken from the individuals with the QIAGEN Bio Robot M48, Universal

and EZ-1, Mini and Micro kit; quantitation was made by Quantifiler Human Y and Duo kit. Amplifications of the samples for the bireyin DYS456, DYS389I, DYS390, DYS389II, DYS458, DYS19, DYS385, DYS393, DYS391, DYS439, DYS635, DYS392, GATAH4, DYS437, DYS438, DYS448 loci by using Amp FISTR Y-Filer and DNA typing is made by using ABI 3130 XL device. Frequency calculation is made via Henke.

Results & conclusions: 17 polymorphic STR loci allel frequencies of 600 male individual selected from Turkish population are determined as; DYS385 %95,64; DYS393 %67,12; DYS391 %46,24; DYS439 %69,48; DYS635 %76,54; DYS392 %53,06; YGATA H4 %69,68; DYS437 %59,43; DYS438 %69,71; DYS448 %69,26; DYS456 %62,19; DYS389I %57,89; DYS389II %73,15; DYS390 %73,57; DYS458 %80,67; DYS19 %74,08 According to the calculation we made, we found out the most frequent allel frequency as DYS385 locus.

PP-731

Possible Teratogenic Effects of Antiepileptic Drugs (carbamazepine, lamotrigine and levetiracetame) in Albino Rats

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Background: Epilepsy is the most common serious chronic neurological condition, including women of childbearing age, which raises questions of the interactions between epilepsy, antiepileptic therapy and different aspects of reproductive life.

Objectives: This work is an attempt to study the possible teratogenic effects of antiepileptics by comparing one of the old generations (carbamazepine) with two different types of new ones (lamotrigine and levetiraceram) in a trial to detect AED that can be used safely by epileptic pregnant women.

Material & methods: 80 adult non pregnant female albino rats and 40 male rats weighted (150–200 grams) were divided into four groups. Control groups each (n=10): Group Ia: Negative group, received nothing, Group Ib: Positive group, received normal saline. Treated groups each (n=20): Group II: carbamazepine. GroupIII: lamotrigine. Group IV: levetiracetam received therapeutic dose (TD) (0.45 ml, 0.25 ml and 0.3 ml respectively)all twice/day.Two adult female albino rats were mated with one male rat in the evening, a successful mating was examined in morning and regarded as Day 0 of gestation. Saline or drugs were given orally from 6th to 19th day of gestation. The animals were killed on 20th day. The fetuses (living and dead) were examined morphologically. Then classified into two thirds for visceral examination were sectioned in cranio-caudal direction and one third for skeletal examination., in which the ossification centers were taken as an indicator of fetal development. Data subjected to (ANOVA) test.

Results: The least percentage of maternal deaths was in TD of levetiracetam treated group (10 %).All treated groups showed very highly significant reduction in maternal weight gain when compared with control group. The least embryolethality percentage was recorded in the TD of levetiracetam (1.7) in comparison with control group (1.5). The TD of lamotrigine treated group showed significant reduction in fetal weight. The least percentage of congenital anomalies was recorded in TD levetiracetam treated group (3.4). The morphological abnormalities recorded were Cranioschiasis, pronsencephaly, otic placode, optic placode, microganthia, omphalocele and scoliosis. There was a very highly significant reduction in the complete ossification centers of craniofacial of all treated groups and in the complete metacarpal ossification centers of TD of carbamazepin. There was a very highly significant decrease in complete metatarsal ossification centers in TD of levetiracetam in comparison with therapeutic dose of carbamazepine treated group.

Conclusions: We conclude that AEDs are potentially teratogenic. Lamotrigine in TD is the drug of choice to be used by epileptic pregnant women

PP-732

Evaluation of the Forensic Reports Documented at the Department of Forensic Medicine of Gaziantep University (2005–2011)

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Evaluation of the forensic reports documented at the Department of Forensic Medicine of Gaziantep University between 2005 and 2011 in the view of Turkish Criminal Law

A total of 6389 forensic cases were examined and forensic reports were documented. Analysis of the types of the forensic cases revealed that assaults and batteries constituted most of the cases 1407 (22.0 %), and the remaining cases were traffic accidents 1060 (16.5 %), and the stab wounds 926 (14.4 %), gun shot wounds 675 (10.5 %) and drug of abuse 569 (8.9 %), sexual abuse 402 (6.2 %).

In this study, we aimed to review the epidemiological features of the forensic reports, which were documented at the Department of ForensicMedicine of Gaziantep University through a period of seven years, and to discuss these reports in the view of the Turkish Criminal Law.

PP-733

Forensic Examination of Mobile Devices

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The usage of Mobile Devices in society is increasing day by day and also connected to criminal activity. The examination of mobile devices has become an important aid to law enforcement in the crime investigation. An understanding the digital evidences gathered from mobile devices and mobile devices network is vital for examination. In this paper, we analyzed 5 different mobile devices using 5 different digital forensic software to gather possible evidences and deleted datas from these mobile devices. In addition, it discusses some of the tools for mobile devices examination and the softwares about their strengths and weaknesses. It also presents a short overview of the legal position and laws related with digital evidences in Turkish Criminal Law

PP-734

The Accidents Resulting in Death in Tuzla Shipyard Between 2003 and 2011

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Aim: The occupational accidents leading to death in the Tuzla shipyard region, which constitutes 90 % of the ship construction and repair industry in Turkey, were assessed in this study and the aim was to unfold the high mortality rate in these events and to discuss the occupational accident death protocol. The autopsy findings were assessed including the frequency of the death events and annual distribution.

Methods: In this retrospective study, 35428 autopsy cases performed in the Ministry of Justice Council of Forensic Medicine Morgue Department between 2003 and 2011 were reviewed. The occupational accident related deaths of the shipyard workers from the Tuzla shipyard region in Istanbul were included.
Results: Among the 35428 autopsy cases reviewed, 55 were occupational accident related death cases from the Tuzla shipyard region between 2003 and 2011. All cases were males and the peak age range was 20–29 (n=23, 41.81 %), and the peak year was 2008 (n=13, 23.63 %). The most frequent site of the accident was inside the ship (n=27, 49.09 %). The most frequent reasons were related to the business machines (n=17, 30.90 %) and falling from a height (n=14, 25.45 %). The most frequent place of death was the incident site before the individual was taken to the hospital (n=28, 50.90 %). The most frequent cause of death was general body trauma (n=29, 52.72 %). Among the body trauma related deaths, the most frequent area of injury was the head (n=22), the most frequent site of the fractures was also the head (n=21), and the most frequent site of the internal organ injury was the lungs (n=16). Third most common cause of death was electrical injury and the most common site of current entry site was the dorsum of the right hand. The toxicological screening revealed alcohol in the blood in only one case.
Conclusion: Shipyard industry, with its increasing sector size, is one of the heavy industries having high risk, due to a significant dependency on the human work force, and the presence of a variety of dangerous interactions. Thus, the need for improving legislation in this area and inspection of the work area has also critical significance.

Forensic medicine can have a critical role in decreasing the deaths, in determining the precautions, and in inspecting the work sites, by assessing the autopsy results and investigating the incident sites following the needed legislation changes.

PP-735

Identıfıcatıon of 11 cropses in fire

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Aim: Definition of identification procedure of 11 workers and 3 samples which could not be identified after a big fire in a construction area. Discussion about usage of Y-STR data in identification cases.
Method: Blood samples taken from cropses after autopsies and 3 tissue samples collected from fire scene were sent to Biology Department. The relatives who gave biological materials for the identification of unknown bodies were 14 people in total, 5 parents, 2 children, 6 brothers and 1 nephew. Y-STR analysis were the only chance for latter 7 people.

DNA analysis on both the samples from unknown bodies and the relatives performed as duplicates. QIAamp Micro Kİt and EZ1 DNA Tissue Kit were used to isolate genomic DNA, Quantifiler Duo DNA Quantification kit were used to determine the quantity of DNA isolated.

Autosomal STR analysis were perforemed where the parents are aviliable via Identifiler PCR Kit. Y-Filer PCR kit were used to analyze Gonosomal STRs for all victims and their male relatives.

ABI 3130xl insturument and GeneMapper ID v 3.2 software were used for capillary electrophoresis and allele calling.
Results and discussion: 6 victims could be identifed after autosomal STR analysis. The results showed that there were matches between them and 4 people sent to the laboratory as their fathers and 2 people sent to the laboratory as their as children.

It has been reported that 4 of the victims had shared Y-STR and haplotypes with 4 relatives so they cold belong to same family.

Only one body could not be identified after first analysis step, because there were differences on Y-STR profile when his results and his brothers results were compared. Samples were taken from his second brother and his mother, and the victim was identified via comparing the autosomal STRs with his mothers. Y-STR profiles of 2 brothers, who gave samples as relatives, were the same but different from the victims Y-STR profile in 2 loci.

According to data obtained after analysis, it was observed that Y-STR studies were sufficient for the identification of 10 corpses. However, for 1 cropse, the posibility of brotherhood with 2 people could be rejected after Y-STR studies, because of a possible mutaition.

Y-STR results could provide fast and supportive data for the identification cases, but must be reported together with autosomal STR comparisons against paternal heritage.

PP-736

Forensic Autopsy: Awareness and Acceptance Among Saudi Medical Students

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Introduction: Forensic autopsy is essential whenever a criminal homicide is suspected to implicate the guilty and vindicate the innocent. Moreover, it is mandated by the Saudi law in many other suspicious circumstances.
Aim of work: The aim of this study was to evaluate the awareness and acceptance of forensic autopsy among Saudi Arabia medical students.
Methodology: A cross section study was performed using a questionnaire.A sample of 200 students were chosen randomly from the faculty of medicine in Jeddah during the period of 19–23 Oct 2011. They were divided into four groups according to gender and according to either finished studying forensic medicine curriculum or not.
Results: The majority (99 %) of students were aware about the forensic medicine, with no significant differences among groups concerning its importance and supporting its teaching. 79 % were lacking awareness about existence of forensic centers in Saudi Arabia and about existence of autopsy in the Kingdom. Most of participants (89.5 %) were aware about the difference between the forensic and anatomical autopsy and a closer number of participants (88.5 %) believed that forensic autopsy is permissible from Islamic point of view (Mubah). Most of participants (90.5 %) accepted the forensic autopsy and most of them considered that acceptance of the deceased's relatives is needed (89 %). Some participants (21 %) have history of criminal act with variable consideration of forensic autopsy. 58 % believes that Saudi community is not aware of the existence of forensic medicine and do not accept the forensic autopsy, therefore the majority (93.5 %) support educate the community about it.
Conclusion: There is good awareness and acceptance of forensic medicine and autopsy among medical students in Saudi Arabia. However, we recommended a better teaching of forensic autopsy procedure currently followed in Saudi Arabia to help future doctors to gain the relatives' acceptance of the deceased.

PP-737

Case presentation: Amylase negative gas inclusions in a bloodstain pattern as a sign of expirated blood

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Gas inclusions are in Bloodstain Pattern Analysis a nonspecific sign for the expiration of blood. Often an amylasis test is performed to prove the existence of saliva. But not always amylase is found in these patterns. There are cases where the expiration of blood does not happen through nose or mouth and in these cases the amylase tests are often negative.

In this case presentation presents such a case. A contact pattern and its origin is shown, which showed only partially gas inclusions. In the reconstruction of the crime scene the findings showed good correlation to position of the body. The gas inclusions were consistent with the origination through breathing although they were amylase negative.

PP-738

The forensic medicine aspect of Disaster Victim Identification about aircraft crash in Turkey in third millenium

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Objective: In the mass disasters such as airplane accidents it is very important to clarify the identity of the victims for to enlight the case (pilot, terrorist, etc…), for the consolation of the relatives of the victims and for legacy issues. We aimed to argue the role of forensic medicine expert in the field of identification of victims of aircraft crashes.
Method: In the Web Media basis, we entered the key words of "Aircraft crash" "Identification" on the searching engine "Google" in Turkish time range between 2000 and 2012. Searching results limited only with news which published on Daily news papers. It has been found 586 results. 106 news essay has been considered to take in the study according to the criteria of to include the knowledge about the teams who were searching the identity of the victims.
Results and conclusion: All that news were about three aircraft crashes. The first one was in the 2003 "The Diyarbakir accicident", the second one was again in 2003 " The Trabzon accident" and the third one was in the year 2007 " the Isparta accident". In the first one 71, in the second 75 and in the third one 56 souls had been lost. The news had negative and positive tone about identification. All the news were about identification victims of aircraft crashes. They were all expressing that turkish identification teams were faraway from a full capability. All this failures and negative image on the mass media made think us that an official and ready-to-go Disaster Identification (DVI) Team must be organised urgently. Team members must include Forensic Medicine Experts in different fields of assignments (Autopsy, dentistry, DNA, Antrophology).

PP-739

Evaluating the effectiveness of the student education program in addiction prevention

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Introduction: Establishing projects for accounting the preventive factors for substance use is the one of the key issues of the forensic psychiatry. Within 2006–2007 academic years, Büyükçekmece National Education Directorate and the Children's Center of Bahçeşehir carried out the project named as "Combat against Substance Abuse". Under this project, fifth grade and senior high school students were educated about substance use and addiction with materials created by Yeniden Health and Education Society. Purpose of this study is to evaluate the effectiveness and efficiency of the education program which was used to inform children about substance abuse.
Methods: During education session pre and post tests were applied to 133 5th-grade, 227 8th graders and 68 final year students. Educations had been evaluated and analysed separately by two groups: under and above the age of twelve. The effectiveness of the educations was evaluated by comparing the total scores obtained from the pre tests and post tests. To test if there is a test effect, only post test was applied to 10 % of the participants as control group in each education session.
Results: Increase in the total score of post test was statistically significant in both groups.Increase of total score between pre and post tests was the highest within the 12 years age and above group. Satisfaction from educator performance and training program was also higher in the 12 years age and above group.
Coclusion: This results showed that the education program is effective for redounding the awareness about substance abuse of students. Increase on the awareness and the information level about substance abuse is the most beneficial issue against substance use. Lower amount of total scores and satisfaction percentages in the group of under 12 years age is striking and must be investigated for further education program plans. Increasing in the awareness and information level for both groups should be studied again and continuity of learning should be evaluated in the future for preventive forensic medicine.

PP-740

Relationship between empathy and psychopathy

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Introduction: Empathy defined as "the ability to understand another's perspective and to have a visceral or emotional reaction" plays a key role in social cognitionsThere are currently a number of methods used to assess empathy, the most common ways are self-report measurements. Baron-Cohen Empathy Quotient(EQ) is a self-report scale recently designed to have a clinical application sensitive to a lack of empathy as a feature of psychopathology. Psychopathy can be considered one of the prototypical disorders associated with empathic dysfunction. However, although many studies indicate that antisocial subjects have lower scores on the EQ test some of the studies have failed to revealing the differences between healthy controls and psychopathic subjects. The aim of this study was to show whether APD or psychopathic individuals show emphatic impairment.
Methods: 30 male subjects with diagnosis of Antisocial Personality Disorder(APD), without any comorbid neurologic conditions, and 30 sex and age matched healthy control subjects assessed by a semi-structured questionnaire form, SCID-II, Psychopathy Checklist-Revised(PCL-R) and the Turkish version of Empathy Quotient(EQ). Subjects with APD diagnosis divided into two groups as 'psychopathic' and 'nonpsychopathic' group by using PCL-R scores. 30 point was used as cut point for psychopathy diagnosis regarding previous studies
Results: EQ scores(33,62±10,06) of APD subjects were significantly lower(p=0,000) than the control subjects scores(46,91± 11,59). Although the non-psychopathic group showed better performance(34,76±6,17) on the EQ test than psychopathic group (29,84±11,33), statistically significance could not be showed(p= 0,170). These finding suggest that individuals with APD show significant impairment on identifying of others emotion regarding empathic abilities.
Conclusion: This is the first study assessing the emphatic skills of the APD subjects within Turkish samples. Studies looking at cognitive measures of empathy in violence offenders have showed inconsistent findings. Further and larger sample size studies needed to confirm relationship between violence and empathic disabilities within the APD and psychopathic subjects.

PP-741

Interpreter Usage during Investigative Interactions

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Interactions during investigative communications [such as intelligence and criminal investigations] can be hampered when they involve subject's [identified as Source] who speak foreign languages. When Interpreters are used for assistance an investigator's [identified as Collector] investigative skills and strategies may be put on hold as the Interpreter now becomes dominate during the communicative relay with a Source. The author suggests during Interpreter usage a practice identified by this author as the Interpreter Bridging Approach.

Conventional Interpreter usage during investigative interactions normally has the Interpreter facing the Source in some manner and communications is relayed via Collector through the Interpreter and vice versa from Source. The Interpreter Bridging Approach places the Collector in a position shielding the Interpreter from the Source. The Collector now becomes the communicative relay between Interpreter and Source.

During conventional practices, the Collector relies on the Interpreter's ability not only to translate properly, but to provide a face-to-face communicative relay which can direct the investigative flow of the investigative interaction during communications. This face-to-face communicative relay consists of facial and body gestures, tone and voice inflections, as well as any other interactive exchanges.

As a result of this communicative relay, the Interpreter dominates these facial and body gestures, voice and tone inflection, verbal exchange, and now directs the investigative interactive flow with the Source. The Collector can during Interpreter assisted investigative interactions re-sort to being a note-taker or an observer during the face-to-face interaction be¬tween the Source and Interpreter.

The Collector becomes dependent on the Interpreter's behavioral and verbal investigative ability and assessments. In addition, Due to this dependence on the Interpreter, the Collector may set aside investigative skills and strategies in identifying ongoing nonverbal or verbal cues the Source may display at the time of occurrence.

The author suggests Collectors can apply their proven investigative skills and strategies using the Interpreter Bridging Approach as compared to conventional Interpreter practices. The Interpreter Bridging Approach will improve communicative effectiveness through 1) a physical shielding by the Collector between Interpreter and Source, 2) the Interpreter becoming a physical mechanical earpiece and microphone for the Collector and 3) the Collector's use of hand and arm gestures increasing understanding between Collector and Source.

The Interpreter Bridging Approach will provide the Collector with a more effective communicative insight, investigative flow and assessment of the Source and not necessarily through the eyes of the Interpreter.

PEDIATRIC FORENSIC MEDICINE

PP-742

Complex Suicide

Jorge Ivan Pareja

Definition: Mechanical asphyxia, suicide, cyanosis, choking, cyanosis,
Metodology: Autopsy is performed forensic medical office in Medellin, Colombia, South America.
Study was made of samples from the scene, toxicology and biological
Case: Woman 40 years of age who is found in Barrio Aranjuez, on a bed and abdominal decubitus position with the feet under the bed, the victim had the red plastic bag over the head with a scarf tied Green's hands victim was fastened with handcuffs behind gray, were also found at the scene a envelopes with money inside and targeted.

Observed at necropsy red plastic bag on her head secured to the neck by a strip of green which features a simple knot in the back of the neck, transparent band covering the mouth and wives silver metal subject to his left wrist, the clothes are in good condition.

At external examination conjunctival petechiae are observed, generalized visceral congestion, blood flow markedly. The body shows no signs of struggle, defense or microtrauma to suggest torture

Available information and autopsy findings to conclude that death is caused by suffocation, complex suicide death manner
Conclusion: A complete and exhaustive study of the scene, medicolegal autopsy with special incisions allows us to perform complex diagnostic suicide

PP-743

Estimation of fetal age and maturity of neonate in forensic medicine -modern evaluation of Haase's and Sakaki's rules

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It is important to estimate fetal age/maturity of neonate in case of suspected illegal abortion/neonaticide. Formulae for calculating body length/weight from the month of pregnancy described by Haase (1875)/Sakaki (1887) are applicable for this purpose. However, the usability of such old formulae has not been examined. When we compared calculated body length (BL) using Haase's rule (from 1st to 5th month, BL=M squared, from 6th to 10th month, BL=M multiplied by 5, M means the number of months of pregnancy) with modern growth curve at the end of each month of pregnancy, the former corresponded well with the latter. In the same way, the curve of monthly body weight (BW) obtained by Sakaki's rule (from 1st to 5th month, BW=M cubed multiplied by 2, from 6th to 10th month, BW=M cubed multiplied by 3, M is the number of months of pregnancy) was very close to the actual growth chart. Though these rules are not well known and not enough described in many textbooks for forensic medicine, they are simple and easy to remember. They should be recognized to be useful tool for forensic diagnosis at the autopsy of fetus or neonate.

PP-744

A case of infant accidental hanging

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Hanging deaths in children aged 6 year-oldr and younger are usually accidental. A study from Scotland showed a rate of 0.7 accidental hanging deaths per 100,000 children per year

Even though, some cases may be very difficult to conclude to accidental or homicidal death in cases of infant hanging.

We present a case of an 18 months year-old infant found dead in his kindergarten bed the neck hanging to a toy strap, attached to one of the bed's pillar. The toy having 2 straps of 10 cm each and the distance between the attaching point and the mattress was of about 50 cm. The corpse was unhanged by her nurse and transported to the hospital arriving dead. At autopsy, we observed an eutrophic infant.

The presence of an intense nonspecific asphyxia syndrome. An ecchymotic incomplete neck's furrow. A fracture of the thyroid cartilage. No other violence signs were observed.

Data from the police investigation, the questioning of the nurse and the reconstruction of the scene with the help of a doll revealed that it was an incomplete hanging. The child rested only on the knees. The strap making a turn around the neck sparing. Instead of the node, the link did a whorl encircling the cervical region. in the end of the inquiry, the accidental thesis was accepted by the judge.

This case highlights the difficulty of the manner of death in infant hanging. Matching the data of the judicial inquiry to those of the lifting body, the examination and autopsy, will guide the court towards one of the accidental or the homicidal form.

PP-745

Anal lesions in boys: principal diagnosis of medical-legal importance

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Introduction: in Brazil the Statute of the Child and Adolescent (ECA) requires that health professionals report suspected cases of abuse against children and adolescents. When abuse is suspected, a forensic examination becomes necessary. Medical confirmation of sexual abuse in boys is a difficult task, easily thwarted by the victim's unwillingness to report the abuse which delays the forensic examination. Consequently, physical findings are low as the delay may remove the main evidence of anal intercourse, namely the presence of sperm or semen. That notwithstanding, in the same manner that the standard examination does not exclude the occurance of rape, many signs are nonspecific of sexual abuse and can be found in children with other diseases. The objectives of this study are to describe the main clinical findings in the anal region that may confuse the coroner and to present epidemiological data regarding sexual abuse on Brazilian boys.
Methods: Analysis of the Ministery of Health database – DATASUS - using the ICD 10 - Y05 (Sexual assault by bodily force) and revision of the main databases' literature. The key-words employed were: sexual abuse, boy, anal traumatic injury.
Results: In Brazil, between 2008 and 2011, 206 hospitalized sexually abused boys were reported according to the CID - Y 05. White boys between the ages of 4 and 10 where prominent and the country's Southeast showed the highest number of cases. The clinical findings that often mimic abuse but that may also be observed in other clinical conditions are: anal dilatation (encopresis, sedation, suppository use, chronic constipation, megacolon, megarectum, celiac disease, post-mortem anal dilatation, Ehlers Danlos Syndrome, myotonic dystrophy, reflex anal dilatation, haemolitytic uraemic syndrome); anal dilatation with stool (constipation), edema (angioedema); smooth area at 6 or 12 o'clock in perianal areas (varying from normal); fissures (constipation, Chron's disease, ulcerative colitis, infectious nonspecific colitis); scar (previous anal surgery); gonorrhea, HIV and syphilis (vertical transmission); laceration (accidental trauma); redness (poor hygiene, itching for verminosis), venous congestion and skin tags and thickened fold at midline (constipation, Crohn's disease), human papillomavirus –HPV - (rectal or genital infection by Chlamydia trachomatis amongst young children may be the result of perianal acquired infection and may persist for as long as 3 years).
Conclusions: The importance of this poster is to alert coroners to the existence of perianal and anal abnormalities in boys which are not always due to violence and that may be present in non-abused children.

PP-746

Evaluation of Ability of Realization and Distinction Cases According to Forensic and Psyhciatric Concept

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Summary:
Objective: According to the New Turkish Penal Code, 12 and 15 years of guilty children have to be evaluated for the ability of realization and distinction. In this research many characteristics are compared with each other and evaluted with the social comparison scale (SCS). There are few studies evaluating the relationship between the ability of realization and distinction and social comparison scale.
Method: In the first phase of this study, we selected 43 cases randomly and performed a questionnaire. So that we exhibited whether they had ability of realization and distinction or not. And then we performed our questions risk analysis. After this phase we selected randomly another different 41 cases and performed questionnaire about ability of realization and distinction and social comparison scale. The validity and reliability of SCS has been previously demostrated.
Result: In our resarch we evaluated 41 cases. Of 41 cases 90,2 % were male (n=37) and 9,08 % (4 cases) were female. 31 cases (% 75,6) were brought to examination for the first time and 10 cases (24,4) were brought more than one. History of migration of the family was present in 50 % of the cases. When compared with the SCS the cases who had a history of migration were less assertive than those who were native to the city.
Conclusion: Almost one fourth of the cases who were brought to examination for testing existence of their realization and distinction ability had committed a crime in their past, about half of them had a history of migration in their life, and those who are native to the city seem to have more assertive profile.

PP-747

syndrome of the shaken baby

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In many cases where the cause of death of an infant is unspecified, the autopsy is of a great contribution, and with stronger reason when the death is due to one or with ignored traumas and where the responsibility for a third nobody is committed.

I report the case of an infant of old male sex of 8mois taken along by his father to the emergency department in a dead state.

In front of this irrefutable fact, the doctor of guard declares that death is of unspecified cause.

An autopsy was ordered by the Public prosecutor. During the external examination, we discovered a small bruise sitting at the right cheek and with the autopsy, we found hearths of cérébro-méningées hemorrhages (of the small diffuse extra-duraux bruises).

The legal authority proceeded to a thorough investigation which revealed than the child was shaken by his father who was drug addict and violent.

Ø Ci-joint of the photographs of the cerebral lesions taken at the time of this autopsy.

PP-748

Assessment of childhood forensic cases, and protective measures

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Aim: The concept of forensic case is used in terms of the unhealthy conditions due to the person's careless, incautious, neglect or intentional behaviors. Childhood forensic cases, which occur under the age of 18, are seen frequently so less to underestimate. We aimed to analyze the features of the childhood forensic cases and to discuss protective measures.
Material-method: The cases who were admitted to the emergency service between 2008 January and 2012 February were analyzed retrospectively. The cases were evaluated due to age, sex, the way to arrive hospital, the month of presentation, mechanism of forensic case, and clinical features.
Results: The number of all forensic cases between the specified dates was 1093 and 237 of them were in childhood age. The rate of childhood forensic cases to all was 21 %. One hundred forty-three of 237 case were male (60.3 %), and 94 were female (39.7 %). The average age of males and females were 9.95± 5.49 (1–18), and 10.72±6.74 (1–18) respectively. The age of most seen cases were in range of 13–17 years (46.0 %). 66 % of the cases had come to the hospital at their own expense. Cases were more frequently applied to hospital in August and in September [26 cases(10.97 %)]. The most seen causes were traffic accident in men (33.6 %) and, intoxication in women (42.6 %). The rate of cases with no risk of death was 84.3 %. One hundred nineteen cases were discharged after observation follow-ups from the emergency service, 109 cases were hospitalized and had medications. Seven of all cases died (2.95 %).
Discussion: The rate of childhood forensic cases was high to all. The 13 to 17 age period was remarkably frequent in forensic cases. Measures may decrease the numbers of traffic accident and intoxication cases which are the most seen causes of forensic cases.

PP-749

Children and adolescents suicide in the northern part of Tunisia

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Suicide is the third leading cause of death among young people.Children suicide attempters present often a psychiatric illness often underdiagnosed or occulted by the parents. The objective of our study is to identify the epidemiological aspects of children and adolescent suicide in Tunisia and to discuss its risk factors.

We conducted a retrospective study on the medico-legal autopsies performed in the forensic department of Tunis during a 7 year period (2005–2011).

During the study period we observed 53 cases of children and adolescent suicide. The sex ratio was 1,12 (25 female vs 28 male). Mean age was 15,8 year-old [5–17]. 13 % only were juvenile suicide according to the WHO definition (age under 13 year-old). We noticed an increase in the frequency of the cases in 2011 (p=0,4) which could be explained by the a suggestion and/or a decompensation of an underdiagnosed psychiatric illness due to the tunisian revolution events. 55 % of the cases presented known psychiatric illness or bahavioural troubles reported by the families. We have noticed a higher frequency of the cases in winter and spring (26,4 and 28,3 % respectively). 4 cases had suicidal attempts before the fatal act and only 2 cases presented suicidal threats. In only one case the victims filled a suicidal note explaining and apologizing for his act. Reasons of suicides were a familiar conflict and/or the love relation disappointment (24,5 % and 18,9 % of the cases respectively). 71,7 % of the suicides were performed in the victim's domicile and 24,5 % in an isolated place. 45,3 victims did suicides with hanging, in 20,8 % with medicines ingestion and 15,1 % with pesticide ingestion. We noticed 3 cases of self-immolation and a case of complex suicide (stab wound and drowning). We highlight 4 cases of suggested suicides (2 self-immolation during the Tunisian revolution events, one suicide closely after a friend suicide attempt and a 5 year-old suicide suggested by her older sister who wanted to try an "after-world experience")

PP-750

The evaluation of juvenile delinquency cases referred to juvenile police, in Izmir

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Abstract: Juvenile delincuency or children incrimination is an important issue in our country as in most of the countries. This study was aimed to evaluate general characteristics of juvenile delincuency cases and to investigate causes of child incrimination. The population of the retrospective study consists of 565 juvenile delincuency cases in Konak-Izmir. The records of Child Department of Konak-Izmir Police Office, related to juvenile delincuency cases aged between 13 and 18 in the period of January-March 2005 were used. The data was evaluated by SPSS 15.0 package program. Out of 565 cases 84.1 % were male and 58.1 % were aged between 15–18. Of all cases 39.0 % were the student/graduated from elementary school. Of all cases % 50.1 who committed crime for the first time recorded. 70.9 % of cases were judged for offences directed to property. Secondary was to injure intetntionally with 12.9 %. To conclude, socio-demographic characteristics of juvenile delincuency cases and type of alleged crimes were concordant to data reflecting Turkish population. However, causes of child incrimination should be investigated by prospective studies including interwiev with children.

PP-751

Medico-legal Deaths of 0–5 Years Old Children in Van City of Turkey

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Background: Childhood 0–5 years of age begins at birth and continues with toddlerhood and the preschool age. Child health is one of the most important parameters of the public health and is closely related to the developmental level of a country. The aim of the study was to evaluate the medico-legal deaths among children five and under five years of age in Van city of Turkey.
Methods: All autopsy reports of children, 0–5 years of age, between 2005 and 2011 in Van city and its vicinity were investigated retrospectively based on the gender, age, the scene, death cause and the origin of the incident. Data were statistically analyzed using with SPSS 16.0 Packet Program.
Results: A total of 208 medico-legal death cases were evaluated. Of the cases, 99 (47,6 %) were girls and 109 (52,4 %) were boys. The cause of death was natural in 44 cases (21,2 %) and non-natural in 164 cases (78,8 %). Out of all cases, 71 (34,1 %) children were 1 and under 1 year old and among them 5 were abandoned babies.
Conclusion: Although different rates were reported for child deaths in the literature, traumatic deaths of the children are seen all around the world. Educating mothers in childcare, taking precautionary measurements against home accidents and increasing the social awareness on this issue can prevent the deaths of children five and under 5 years of age.

PP-752

Children who came/were brought in police office for substance abuse in Izmir

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Abstract: Child development is a dynamic process. In this process, some difficulties like childs own incapacity, rapid urbanization, migration and economic crisis, confusion due to changing value judgment and code of ethics, familial problems, insufficient education, lack of interest and affection etc. are oriented child to criminal behaviours. In this study, we evaluated 47 children's data who came/were brought in Child Department of Konak-Izmir Police Office for substance abuse in 2005. This study is a retrospective type of study. The data was examined by using Fisher's Exact Test and Pearson Chi-Square Test. The data was evaluated by SPSS 15.0 package program. All of the children are male and mean age is17.06±3.76. Of all cases 76.6 % were the graduated from elementary school. 9 of them (19.1 %) gave up their education and so still are not going to school. All of the children have used volatile substance and 44 of them (93.4 %) are using tobacco, 7 of them (14.9 %) are using drug, 7 of them (14.9 %) are using cannabis, 2 of them (4.3 %) are using alcohol besides volatile substances. 50.1 % of cases were judged for offences directed to property. Secondary was to injure intetntionally with 13.8 %. In conclusion, when we compare with previous studies we found an increase in volatile use. These finding shows us that there is a significant increase in volatile use. To present usage of volatile substances, goverment, people and groups all must take their role. A social goverment must prevent the easy route to substances and fight against the users. For today, usage of substances is under control but the individual and social sensitivity studies on the health and social risks of substance abuse must go on ceaselessly.

PP-753

Death from aspiration of vomiting in krabbe disease: a case report

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Krabbe disease is a rare, inherited neurodegenerative disease characterized by severe destruction of myelin and presence of globoid bodies in white matter. It is caused by deficient activity of the Iysosomal hydrolase galactosylceramide beta-galactosidase (GALC). The symptoms of Krabbe disease usually begin in early infancy, typically presenting with irritability, hypertonicity, tonic spasms, visual loss with optic atrophy, occasionally seizures, eating difficulties, and early death. In this study, we report a two year old girl with early infancy Krabbe disease who died by caused aspiration of vomiting and was performed medicolegal autopsy. The macroscopic and histopathological findings are discussed in the light of accompanying literature.

PP-754

A study of the possible toxic causes of Autism

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Autism is a severe developmental disorder which involves social withdrawal, communication deficits, and stereotypic/ repetitive behavior. Recent clinical survey of patient records from autism spectrum disorders (ASD) children under the age of 6 years and their age-matched controls revealed evidence of abnormal markers of thiol metabolism, as well as a significant alteration in deposition of several heavy metal species, particularly arsenic, mercury, copper, and iron in hair samples between the groups. As a preliminary step in understanding the possible role of some metals in the etiology of autism, this study aims at detecting the difference in the level of mercury, lead, copper and zinc in the hair of autistic children versus normal control group and whether the levels of these substances are correlated with severity of autism or not. Patients and control group were matched regarding the age (nearly 4 years old). Results showed the lead and copper levels were significantly higher in cases (9.75±1.8 ug/mg and 26.5±1.9 ug/mg respectively) than in control (6.8±0.86 ug/mg and 19.1±4.4 ug/mg respectively) while, mercury and zinc levels were significantly lower in cases (0.55±0.06 ug/mg and 304.99±25.8 ug/mg respectively) than in control (3.2±0.2 ug/mg and 419.5±45.96 ug/mg respectively). There was positive correlation of Child Autism Rating Scale (CARS) score and both mercury and copper

levels while; Intelligence Quotient (IQ) has significant negative correlation with hair lead level. Zinc level does not correlate with either CARS score or IQ. These preliminary results suggest a complementary role for the studied elements in the pathogenesis of autistic disorder which should be considered in the management plane.

PP-755

Descriptive data on juvenile delinquency in Kadiköy and Kartal districts in İstanbul

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Objectives: Understanding the nature of specific crimes and/or specific age groups' crime behavior as well as the local crime characteristics of a geographic region is vital to determine the needs of a prevention program. In this study it is aimed to show the descriptive information of juvenile delinquency in two regions in Istanbul.
Material-method: The verdict files of Kadıköy and Kartal Juvenile Courts which are registered between years 2008–2009 are reviewed. One of the researchers visited the courts with the written permission of both Marmara University Ethical Committee and the Ministry of Justice. She investigated the related files and documented them in a classified manner. Statistical analysis is executed by SPSS 16.0.
Results: Demographic information of research groups are available in Table 1 and 2. For both districts number of male adolescents within the age range 16–18 is higher than 12–15 age range.

In Kadıköy, mean number of crimes committed by males is 1,22 (ss=.49) and by females is 1,10 (ss=.29) ($p<0,5$). See the detailed description of crime types in Figure 1. The mean age of the victims is 36,1 (ss 14,22). It is found out that 93,7 % (n=385) of males are victimized by male perpetrators (p=.000).

In Kartal district, mean number of crimes committed by males is 1,22 (ss=.50) and by females is 1,08 (ss=,32) ($p<0,5$). The mean age of the victims is 32,74 (ss 13,5). Again, 96 % (n=559) of males are victimized by male perpetrators (p=.000).
Discussion: It is determined that older male juveniles are at greater risk than the younger ones in being party to a crime. Perpetrators from different age ranges are not selective to specific victim properties such as gender and age. The fact that the most common type of crime is theft for both gender smay be the sign of low SES and ganging in these regions. Females do not commit crimes which involve active aggression. As a result, gender type, age range and SES are chosen as key points in future prevention programs.

PP-756

An Infant Death due to Hypertrophic Cardiomyopathy: Case Report

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Background: Hypertrophic cardiomyopathy (HCM) is a disease of the myocardium in which a part of the myocardium is hypertrophied. HCM is often asymmetrical, in which one part of the heart is thicker than the other parts. The occurrence of HCM is a significant cause of sudden unexpected cardiac death in any age group. It is usually inherited. On the other hand, causes of child deaths show changes between countries according to the level of advance. In Turkey and similar underdeveloped and developing countries, basic causes of child deaths are infection diseases, malnutrition, congenital malformation, accidents, malignant diseases. In a study analyzed the deaths of babies, it was determined that cardiac ve central nervous system anomalies were the most frequently seen congenital anomalies. Aim of the study, to present an infant girl case, 43-days of age, who was found by her parent as died and HCM was determined in the autopsy, then revision of the related literature.
Case: According to the hospital's medical documents, when she was brought to the hospital by her parent cyanosis was observed. Respiration and pulse were absent. CPR was applied. Nevertheless any reaction couldn't be taken. Therefore she accepted as exitus. At the autopsy, she was 50 cm in tall and 3000 gr in weight. External examination findings were normal. Heart was 19 gr, right lung was 60 gr and left lung was 61 gr. A small amount of gastric content was observed in the stomach. Systematical toxicological analyses were negative. Histopathological examination findings as follows; Hypertrophy and hyperemia were observed in myocardium. Walls of the left ventricle were thicken, papillary and trabecular muscles were became rude in this area, left ventricle cavity was narrow, out of the left ventricle was narrow slightly. Diffuse edema, intra-alveolar fresh hemorrhage, severe hyperemia in the lungs; hyperemia in liver, kidneys, thymus and cerebrum were observed. As a conclusion, microscopic changes of the heart was making think HCM.
Conclusion: HCM must be call to mind in sudden death cases.

QUALITY CONTROL

PP-757

Discrepancies between clinical and autoptic diagnoses: evaluation of 879 consecutive cases

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Background: The number of clinical autopsies has recently undergone to a progressive decline and many professionals are concerned about it in the medical community and in the wider healthcare system. Multiple factors are contributing to this decline. In addition to an alleged high cost-effectiveness ratio and the fear of medico-legal consequences, some argue that with the improvement of the imaging technology the diagnosis as well as the cause of death are more certain in most cases. Despite these advances in diagnostic modalities, recent studies stressed that autopsies continue to demonstrate inaccuracies in clinical diagnoses that can affect outcomes and this is the reason why autopsy still remains a fundamental tool for healthcare quality and safety assurance.
Method: A retrospective study on the reports of all the 879 consecutive autopsies performed on patients who died at "Policlinico" Hospital in Bari from 1990 to 2009 was conducted. A progressive reduction in the number of the autopsies executed per year was observed with the sole exception of an increase in the number of the perinatal ones. All clinical diagnoses have been compared with autopsy findings. Major and minor diagnostic discrepancies were categorized according to the criteria of Goldman et al. (Class 1: a discrepant major diagnosis with a potential impact on survival; Class 2: a discrepant major diagnosis but with equivocal or no impact on survival; Class 3: a discrepant minor diagnosis that could have been diagnosed before death; Class 4: a discrepant minor diagnosis that could not have been made before death).
Results: The rate of discrepancy revealed on the base of autopsy findings was significantly high (36,5 %) allowing us to hypothesize that a better diagnostic assessment could lead to a different outcome. Especially the major diagnostic discrepancies have certainly had an at least pejorative effect in the matter of the initial assessment of the case and / or the treatment provided.

In terms of risk-management this negative performance needs to be carefully analysed and requires a comprehensive audit of all services provided in the hospital.

Conclusion: In conclusion we would like to underline the everlasting importance of autopsy as an essential tool to address unresolved clinical questions and to highlight previously undiagnosed medical conditions. Particularly, data from post-mortem examinations continue to be important for society, in order to inform about causes of death, for doctors, to improve practices, and for decision-makers, to improve organizational systems and clinical performances.

PP-758

Medical activity documentation

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Clinical records, medical and medical records audit.

Today in our country there have been made public knowledge as the deaths of terminally illness patients or almost terminal in CTI conducted by Hospital´s personnel.

At this point health´s authorities notice a flaw in the controls not only from the operational standpoint, also at the medical records of patients.

We have to take into account that the medical record of our patience is the most important document that we have. It has the diligence, prudence and care of the assistance team. All the actions are record on it, patients and professional interests. This document must be handled properly, no breach of the principles, ethical rules and laws that concern.

In our country the rules of Public Health (Order No. 363 valid since 1954) says that: primary diagnosis, surgical procedure and treatment must be written on it. Moreover, the Ordinance No. 33 of 1984 says, No patient with more than 24 hours or more of hospitalization may have no medical records. If this happens, it could be classify as an evil praxis.

For Public Health this register will be a source of epidemiological and statistics information of the healthy situation of the country.

It reflected the relation between the professional and the patient. This relation carries out obligations and right for both parts. Not forgetting some of the main duties of health personnel from the patient, the duty of assistance under the Lex Artis, the duty to inform, to obtain the consent, making the documentary evidence of good or bad exercise of the profession in cases of liability claims for health professionals and health institutions.

Documents can be fastenings or be audited.

Audits are for educational purposes. Evaluate and correct the quality of care provided by qualitative analysis. Have a critical evaluation of all medical intervention, particularly the unsatisfactory cases and errors. Medical records would not exist without data to assess the care provided.

PP-759

Internal Validation of 20 SNP Multiplex for Forensic Genetics

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Background: There has been a growing interest in Single Nucleotide Polymorphisms (SNPs) analysis in Forensic Genetics. In 2006, the SNPforID Consortium published the development of a multiplex PCR assay for detection of 52 autosomal SNPs for human identification, validated for forensic use in the following year. Even though the analysis of 52 SNPs may be ideal, a smaller number of loci can be sufficient to provide additional data for complex casework. The use of a 20 SNP multiplex has already been developed for paternity and kinship analysis. Here we present the internal validation study of that multiplex.

Method: DNA was extracted using Chelex®100 resin method from buccal swabs and/or blood samples of 113 unrelated individuals involved in paternity testing casework. DNA from animal samples was also extracted. PCR amplification of autosomal SNPs was performed in two 25 μl 10-plex reactions designed to amplify SNP loci rs1490413, rs1029047, rs763869, rs735155, rs2107612, rs1454361, rs2111980, rs1005533, rs8037429, rs891700 in the first multiplex and SNP loci rs2046361, rs717302, rs1886510, rs729172, rs1024116, rs1463729, rs2076848, rs1355366, rs907100, rs737681 in the second one. PCR conditions and SBE reactions were performed as described by Sanchez et al. with slight modifications and SBE products were analyzed by capillary electrophoresis on a 3130 Genetic Analyzer.

Results: An optimum PCR annealing temperature of 58°C was obtained although Sanchez et al. described it at 60°C. This assay revealed sensibility to obtain full profiles from 2.5 ng, 2.0 ng, 1.0 ng and 0.5 ng of human DNA. No SNP loci amplification was detected from animal samples, which included various vertebrates such as cats, dogs, horses and others.

Population studies were performed with 113 individual samples. All studied loci revealed allelic frequencies higher than 0.310, sixteen above 0.400. Discrimination Power of 99.9999995 % and Power of Exclusion (PE) of 97.88 % were obtained with the 20 SNP studied. Although PE is relatively low, these 20 SNP multiplex can be very informative when analyzed together with one or two routine STR multiplex loci.

Conclusion: A sensible and specific 20 SNP multiplex for forensic testing, based on SNPforID 52-plex, was validated. This multiplex shows human specificity, full profiles can be obtained from very low DNA quantity and is very informative when analyzed together with routine STR multiplex loci. Autosomal SNP analysis can be a valuable tool in Forensic Genetics, especially in kinship analysis and human identification.

PP-760

A practice of patient complaint management

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The purpose of this study is, to analyze how the customer complaint management is handled in private hospitals in İstanbul. Patient complaints management is a crucial part of patient-oriented service and quality improvement. In this context, the relation between practice and processes of the basic tools such as Responsiveness, Effective Evaluation, Effective Solution, Privacy, Information Collection and Use, Monitoring, and Make Improvements. Questionnaire interviews with private hospital managers were carried out to determine customer complaints management approaches. Based on bed capacity, although there are 13 institutions were included to the study, only 6 of them participated. Reasons declared about not participating were private corporate privacy, competitive conditions for private hospital, and not being eligible (time constraints). The average numbers of; sectional hospitals of the institutions was 6, beds 186; employees 933. 55.9 % of the hospitals' have TSE, 79.4 % have JCI, 91.2 % have the ISO certification. The Patient Focus and Quality Improvement (p=0.037

*Accessibility (p=0.019), responsiveness (p<0.0001**), Effective Evaluation (p=0.013*), Effective Solution (p<0.0001**), Privacy (p <0.0001 **) and monitoring / improvement (p=0.006*) processes of the institutions with TSE certificates were significantly different compared to others. The Accessibility (p=0.005*), Responsiveness (p< 0.0001**), Effective Evaluation (p=0.013*), Effective Solution (p= 0.022*), Privacy (p=0.011), and Data Collection and Use (p=0.022*) and the Monitoring / Improvement (p=0.005*) processes of the institutions with a certificate of JCI, are significantly from others. Deficiencies have been identified in customer complaint management processes. More were missing in "effective evaluation process" which is the most important factor. 48.2 % of survey respondents marked that, management strategies were determined by the risk assessment in order of severity of complaints whereas 51.8 % of respondents' indecision on this issue or disagree. 41.8 % of the respondents' disagree or indecision to the question of which complaints will be taken away to foreign corporations (like chambers of commerce, police, etc.) in complaint management procedure. In addition, 60 % of respondents declared that, public have not been informed on a regular basis, about patience feedback aiming to improve the quality.

SEXUAL ABUSE

PP-761

Complete hymen pregnant teenager. Report of two cases

Viviana Lopez Castro

Case 1: Teen with 12 years old, female who maintained an affectionate relationship with a man 28 years old, according to sexual overtures to attempt vaginal penetration without a history of penetration. Home test was performed and blood tested positive. We perform obstetric ultrasound in pregnancy which is seen from 9 weeks of gestation. Physical examination of the genital area can see the full annular hymen without tearing recent or old.
Case 2: 13-year-old female who went to the house of an acquaintance for a gift offered by him. It does not make the story says quietly throughout the test. The mother reports that her daughter went to a famous elderly. He promised a gift her and there were sexual acts with penetration. Consultation with medical center by amenorrhea Pelvic examination reveals a pregnancy of 18 weeks and obstetric ultrasound reported a gestation of 20 weeks, the study noted forensic hymen appears like a complete hymen without tears
VI. Discussion: We present these cases of pregnant teens with hymen integrity, which has existed in carnal abuse that does not include penetration and result in a pregnancy is documented.

In national and international literature reviewed there are no reports of such cases.
VII. Conclusions: The knowledge and reporting of initial medical care Hospital, the systematic study of the scene, the analysis of clothing and a sexological examination complete, can generate a conclusion of the case.

PP-762

Between magic and history: an unusual case of incest

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Background: The case presented here took place in the deep south of Italy where, even today in some areas, people continue to hold on to beliefs in magic and superstition. Such ways of thinking have deep roots and hold important cultural significance in this part of the country. What makes this case so unusual and interesting however, is the way in which the perpetrator went about sexually abusing his daughter:
• Seeking the help of sorcerers.
• Sadistic practices such as injecting sperm into the victim, as well as providing her with food and drink laced with sperm.
• Psychological violence.
• Isolation of the victim.
Method: We examined the features of the violence perpetrated. An unusual web of ritualistic, mythical, subcultural, and "magical" elements were involved that went far beyond those normally associated with cases of sexual abuse. Another atypical characteristic of this case was the duration of the sexual relations between the father and daughter: 4 years.
Results: In cases of incest, the adult transforms a child's dreams of seducing the parent into a nightmare in which the child is actually able to realize his or her goal. The parent should remain impassive in such situations. Whereas the child may only fantasize about sexual or incestuous behavior, adults must understand the difference between infantile phantasms by deciphering the meaning of these fantasies and not permitting them to be acted upon.
Conclusions: Unlike a "classic" rape, where the victim feels a sense of separateness from the rapist, the victim of sexual abuse within the family environment finds him or herself in a highly complicated relationship with the perpetrator. Even when these victims have feelings of hate toward the relative, they are unable to experience conflicting tensions and ambiguous emotions: This is particularly damaging to a child as we can see from this case.

PP-763

Female pedofily. When a rose has only spines

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When we usually speak about abuse is easier to think about it as a male who acts with a deviated behaviour and on the other side there is a victim. Sometimes it can happen that the abuser is a female and tje consequences both moral and social can have a different way. This reality is harder to understand because of the role that a female has in the society: she is a woman, a mother, she gives protection, love. But what does it happen when the abuser is a woman? There are differences in the behaviour of the abuser?The authors, throught the presentation of specific cases and the experience of brilliant psycologist will try to give an explanation and a contribution to this "special" reality.

PP-764

A Rare 'Educator Sexual Abuse' case: Mistress & Schoollgirl

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In the literature in concern with about child sexual abuse the term that is defined as "Educator Sexual Abuse" or "Educator Sexual Misconduct" is put forward in the last few years. This term often finds place in the visual and print media and also causes significant reactions in the society. In most of the studies about sexual abuse, up to date it is reported that the abuser and the victim are different gender: the abuser is male and the victim is female. Cases in which the gender of the victim and the abuser is same is less abundant.And also it is very very rare that the victim and the abuser are female. In addition in terms of general characteristics there is a close correlation between "Educator Sexual Abuse" and the whole sexual abuse cases.

Method: An 'Educator Sexual Abuse' case that admitted to judicial authorities for allegedly suffered sexual harassment by a female teacher and that has sent to Specialized Board of The Councel of Forensic Medicine (The Sixth Commitee) for evaluation of mental health.Our case is a 15-year-old elementary school girl living in the city center.The abuser is a female math teacher. Since the abuse the victim has been living sexual identity problems and thinks she is responsible for the abuse becauce of masculine attitudes and behaviours she has. Later on, she has started to think that in the fact she is a secret female homosexual.

In our case, the conflicts of emotions and thoughts before and after the abuse is discussed with the abuse as a whole.

The identitical information about the victim has been changed for the right of privacy of her.

Results and conclusion: To reveal all aspects of the sexual abuse cases that cause huge backlash in the community is extremely important for prevention of similar events and rehabilitation of the victims.

PP-765

Geriatric Sexual Assault Resulting in Death

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Intraduction: As the elder were unable to do their self care skills at the old age period, elderly neglection and abuse came into question. Among elderly physical, mental, economic, sexual abuse, although less common types of sexual assault is one of. In our case, the sexual abuse of the elderly will be evaluated in terms of forensic psychiatric perspective. The case is important for its rarity.

Case: 77-year-old woman with a diagnosis of "Parkinson's and Alzheimer's Disease" was found dead at home her mouth and hands tied behind. At the autopsy, external examination, common abrasions in her face, seen dried blood on his left cheekbone, at examination of the genital area, vaginal wall clock at 6, 1x0.5 cm. abrasions and ecchymosis were observed. At internal examination, in leather interior with hair ecchymosis, in left-right frontal region, SAH was found, at examination of the organs of the neck, the hyoid horn, ecchymosis of both horn, the right horn is broken, the left submandibular region revealed ecchymosis.

In histopathological investigations; in brain; subarachnoid hemorrhage was revealed. Cause of death in the autopsy, brain hemorrhage depending on blunt head trauma and mechanical asphyxia depending on implementation related to compression of neck were reported. In the test samples that obtained from lingerie wearing when she died, PSA(+) is determined as semen, in the examination of swap samples taken from vaginal and anal region, sperm cells was not observed. In studies of the DNA, swaps from clothes and nails, other person's DNA was not found

Although foreign DNA and sperm cell were not found, as a result of PSA with external genital findings, it was thought that she was killed by exposuring vaginal penetration and sexual assault.

Discussion & conclusion: Just as the children's cases under 18 years are considered differently compared to adults in defending themselves mentally and physically, believing others easily etc., geriatric age group should also be evaluated differently from adults psychiatrically and physically in a multidisciplinary way. Suspicion of neglect and abuse in elderly patients admitted to health facilities at all times should be kept in mind, in the autopsy of elderly patients that are found dead or killed, genital examination and tests should be certainly performed.

PP-766

A Look at the Incest Phenomena Reflected in Forensic Medical Reports

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Incest which is one of the oldest prohibitions of humankind is generally defined as the prohibition of sexual intercourse between parents and children and between siblings. According to studies, the most rapid increasing crimes among the violent crimes are sexual offenses.

The research has determined 673 cases of incest by examining the reports which was given to the 6th Specialization Board of Istanbul Forensic Medicine Institute from 2005 to 2009. Attackers are limited to close relatives (except relatives in law) who cannot marry according to article 129 of the Turkish Civil Code. The cases of attackers who are relatives by marriage are also examined.

90,6 % of the victims are girls. It was noticed that in childhood age group (under 18 years old) incest cases increase with the increase in girls' age. Penetration in both sexes was seen as the most common method. Psychological effects are found about the incest method rather than the number of attackers.

PP-767

Importance of social and professional awareness in revealing child sexual abuse: case report

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The Counsil Of Forensic Medicine

İntroduction: Among child abuse types,child sexual abuse is the most difficult type to identify.Sexual abuse often occur randomly. Children rarely talk about sexual abuse to a third one.One of the main reasons is the abuser's threaten to child that he would harm her and her family members.The other reason is that nobody will believe her when the abuse is heard. One of the most important dimensions of child sexual abuse is prevention children from child sexual abuse and realising child sexual abuse as early as possible. In early diagnosis and prevention of child sexual abuse, generally community's and especially professionals' awareness of about the subject is of great importance. In this study, it is aimed that emphasize the importance of social and professional awareness of child sexual abuse (awareness of relevant professionals)

Method: In a case of child sexual abuse about a 11-year-old girl continually 1.5 years abused by a 67 year old male, the way how to come out sexual abuse was discussed. In this case, sexual abuse were revealed through a woman sitting opposite the primary school and two police officers' investigating the sensitivity of all aspects by not trusting the information given by abuser to cover up the incident.

Result and conclusion: In the prevention of child sexual abuse,as well as increasing public awareness of this issue is important but professionals' awareness working in areas related to child sexual abuse (eg, teachers, health workers, police, etc.) is more important

PP-768

Multi-family and twin incest: A case report

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Introduction: In Intrafamilial sexual abuse,father is mostly the guilty and the most commonly reported form of abusive is father -daughter incest. Sibling-sibling incest is the rare type of incest.

This case had arisen from a complaint of victim who applied to women's refuge. The victim claimed that she had been raped repeatedly by her twin brother and also her elder three brothers totally four brothers for eight years.

Case: The victim is illiterate 21-year-old female patient. According to the victim's testimony, when the victim was 12, her brother V.D. born in 1981 first had vaginal intercourse with her by force after drinking alcohol.The victim told the event to his mother the first time, but her mother covered up the event for fear that the father would learn the situation.Later, his older brother born in 1979 S.D. forced her have intercourse like his another brother.Until 2006 when S.D. died and until June of 2010 V.D's marriage, they continued sexual attacks almost every day. In 2007, O.D her twin brother and E.D. born in 1987 older brother had begun to have intercourse with her by force. O.D continued his actions until his marriage in 2010. Then V.D. forced the victim to informally marry with 27-year-old uncle of his wife R.C. They lived together only in a month and then she divorced from R.C,she returned to her family house.Lastly E.D. raped the victim in his Office. As a result of this event, she abandoned him and she began to live in parks. An old woman found her, she brought the victim to women's shelter. The event reflected the judicial authorities in here.

The examination of the committee; was determined "Posttraumatic Personality Change". The latest rape by E.D have been carried out by the study of biological, foreign DNA and sperm cells were not found but as a result of the psychiatric interview in judicial investigation, It is identified that she has exposed to sexual harassment

Discussion & conclusion: In our case, only one thing which may prevent the abuse was mother's help but mother's ignorance made the event longer and more complex. Despite many case reports in the literature on incest, in this family we mentioned here, multi incest including especially the victim's twin brother and other brother incest made this event more different than others.

PP-769

Comparison Of The Optical Filtered Colposcopic Images With Unfiltered Colposcopic Images In Suspected Rape Victims

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Introduction: Colposcopy and colpophotography are important methods of examination that are used in a lot of western countries as standard for the research of genital lesions in sexual abuse cases and they are recognized to increase the detection of the findings in the first 72 hours. During the colposcopic examination, if the tissues that are not cleaned well and if there is discharge, infection and/or edema around the region; it causes brightness and reflection on the images and makes it hard to examinate and take images. In photography, various filters are used to prevent such reflections. For the purpose of avoiding reflections and improving image quality; we used a special optic filter which was improved for a reserach project in Turkey.

Methods: Informed consent was taken from all the patients that were sent to Adnan Menderes University Department of Forensic Medicine Sexual Examination Center with a suspection of sexual abuse. Filtered and unfiltered standard images that included lesions were taken with the improved special filter mounted on the colposcope. Lesions were evaluated with the patient history, visual examination and the filtered and unfiltered images.

Results: In the cases that were examined within the first 72 hours; there was intense brightness around the examination regions on the unfiltered images, the size and the borders' of the lesions were more evident on the filtered images and some lesions that were not clear on unfiltered images became more evident on filtered images. These findings will be discussed by comparing the images in our presentation.

Conclusion: In colposcopic imaging, brightness is a major problem in the unfiltered colpophotographic shots that affect the image quality and future evaluations. It was determined that the optic filters which prevent brightness and make the tissues more evident are valuable and useful in the examination and the documentation of the rape victims and increase the quality of the examination.

PP-770

Les violences sexuelles conjugales en Algérie, entre tabou, religion et loi

Mokhtaria Souag

The authors intend to demonstrate that the conjugal duty makes possible all that the law and religion to this day because repress sexual abuse inflicted on women by their spouses are not recognized as offenses within the Algerian penal code and are the subject of any judicial repression. However the Muslim religion forbids certain acts between spouses, such as sodomy, sexual intimacy in the month of fasting (Ramadan) and during the menstrual period.

Today, some women say only those who dare speak the occasion and by the courts for sexual abuse within the meaning of the word, they are victims of their husbands who feel they have practiced all their right after the religion and law.

The complaints are increasing and the law is silent indifferent to their sufferings see, while this kind of abuse is a catalyst for many divorce proceedings.

PP-771

Sexual abuse in the Old: A Case report

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Introduction: There is a widely accepted prejudice that the prey of sexual abuse is mostly limited to the young. But sexual abuse in the old occurs frequently enough for it to be ignored. Among the victims of sexual assault 1/7 are aged more than 60 years and in a study done in Turkey 0.9 % of the seniors were victims of sexual abuse. Senior population is on the rise because of progresses in medicine, technology and preventive health care. It is also expected that life expectancy which was in the fifties in the fifties (1950) has reached 70–75 years. It is also known that elderly victims are more prone to psychiatric disorders, cognitive defects and genital trauma, and become more dependent after an assault compared to the more resilient young. Studies in Turkey are mostly on the physical abuse and neglect of the seniors. As it is has not been wholly acknowledged that the elderly people may be physically and emotionally abused even in a traditional society like Turkey in which the elderly are revered it is no surprise that sexual abuse is not even mentioned.

Case: A 82 year women who lived alone, was assaulted by 2 men invading her home. She suffered 3 days of physical and sexual abuse and her pension money was seized. On hospital admission the victim complained of anal, left eye and left and right lumbar pain and on physical examination there was ecchymosis on and around the left

eyelid, 1 cm swellings on the right and left occipital region, 3 cm abrasion on the back of the neck, 1 cm bruise on the left shoulder, 8–10 cm abrasions on the left side of the back, ecchymosis around the anal area, 2 cm bruise under the left kneecap, diverse scratches and bruises on left foot and legs. In the Forensic Medicine Institute, 6th Expert Committee psychological evaluation 2 years after the fact, post traumatic stress disorder and major depression was diagnosed. It was concluded that the previous episode had undermined her mental well-being, and caused her to leave her home, friends and neighbors and to live with her son.

Discussion: The purpose of this report is to highlight the facts that elderly may be victims of sexual predation, that they may more severely compromised emotionally and physically and that they may lose their previous autonomy.

PP-772

Post-mortem examination of the female ano-genital region: the medico-legal urgency to find out what is normal and what may be a sign of abuse

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Introduction: the evaluation of normal anatomical variants and modes of presentation of female genitalia and the anal region particularly in cadavers is fundamental for the proper assessment of these areas when sexual violence before death has been hypothesized. In literature very few studies have investigated the normal anatomy of the ano-genital region nor which signs can be specific or mistaken for sexual abuse in the cadaver where postmortem phenomena may mimic or alter the original situation. The aim of this study is to observe post-mortem modifications and the alterations of genital anatomy in women with a known sexual history of the immediate antemortem period.

Methods: 30 female cadavers were selected from the autopsies performed at the Sezione di Medicina Legale di Milano. Age, parity, use of systemic hormones and sexual activity were recorded for each case. Before cadaveric dissection, forensic pathological and ano-genital data were noted. Measurements were taken of clitoral body length, distance from the base of clitoral glans to the urethral orifice, labia minor length and width, labia majora length, vaginal and anal orifice length and width, distance from the posterior fourchette to anterior anal margin. All examinations were performed independently by two pathologists in order to minimize inter-observer variability using calipers. Digital photographs of the ano-genital region were taken both prior to dissection and after evisceration. Samples of suspected lesions were taken for further microscopic evaluation.

Results: as far as metric assessment was concerned large discrepancies between observers were observed more frequently in the evaluation of the anus which proved to be extremely difficult to standardize. Post mortem phenomena up to several days did not seem to have significant effects on vulval, hymenal and labial morphology whereas large difficulties and discrepancies in interpretation were found with apparent erythematous areas on the labia, hymen and vaginal walls which could be mistaken for lesions (eg. ecchymoses) but which upon closer examination revealed themselves to be hypostatic areas of engorgement.

Conclusions: studies of the genital and anal areas of cadavers is much called for. Very little is known concerning anal and genital postmortem modifications. The present study has shown that many pitfalls may exist in the interpretation of such findings due to difficulties in examining and measuring these areas and the frequent areas of congestion and hypostasis in the genitalia which may create some ambiguity in their interpretation. All of these phenomena may, if improperly handled, have severe medico-legal implications.

PP-773

Sexual assault by intimate partner: a prospective study

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Background: Increasing attention has focussed on the effects of intimate partner violence on physical and mental health. Only a minority of victims report sexual assaults to the police and even more rarely when the assailant is an intimate partner. Our objective was to characterize intimate partner sexual violence and its physical and psychological effects, at the time of forensic examination and one month later.

Methods: We evaluated all individuals aged over 15 at the time of the reported sexual assault who were referred to our department of forensic medicine. In a prospective study (January 1, 2008 - March 1, 2011), victims of assaults by intimate or ex-intimate partners (group 1) were compared with victims of assaults by unknown or previously known individuals (groups 2 and 3). Data collected included characteristics of the victim, of the assailant, and of the assault, and the results of clinical examination. Follow-up included a second examination, one month later. Posttraumatic stress and psychiatric symptoms were evaluated with the Impact of Event Scale-Revised (IES-R) and the General Health Questionnaire (GHQ-28).

Results: A total of 797 patients (767 women [96 %], 30 men [4 %]) were examined. Median age was 23 (range: 15–82). Group 1–3 included 263, 290, and 244 patients. Antiretroviral therapy was given in 239 patients (30 %). A chronic psychiatric illness was found in 217 patients (27 %) and 139 patients (17 %) received a psychoactive treatment at the time of the assault. Most victims of assaults by intimate partners had been previously assaulted (71 % vs. 29 % and 47 %, Chi2 test, $P<0.0001$). Victims reporting physical violence associated with sexual assaults accounted for 145 of 263 (55 %) in group 1 vs. 95 of 290 (33 %) and 75 of 244 (31 %) in groups 2 and 3 ($P<0.0001$). Physical injuries were found in only 349 patients (44 %) and were more frequent in victims of assaults by intimate partners (54 % vs. 44 % and 33 %, $P<0.0001$). A total of 306 victims (38 %) attended the follow-up examination. After one month, median scores were 55, 48, and 50 for IES-R (groups 1–3, $P=0.95$, NS) and 16, 17, and 18 (groups 1–3, $P=0.34$, NS) for GHQ-28.

Conclusion: Most victims of assaults by intimate partners had been previously assaulted before reporting the case to the police. Only a minority of sexual assaults survivors present with physical injuries. Posttraumatic stress symptoms were present as well in most victims by intimate partners as in other victims of sexual violence.

PP-774

Friends' Compulsion for Abusing Children Sexually: A Child Molester Report

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Background: Child sexual abuse can be defined as any situation in which an adult or another child threatens, forces a child into sexual activity. However, the abuser doesn't need to use physical force to the victim every time. A part of molested children are abused by persons who have close proximity to them. Abusers may have some characteristics. Most abusers were abused themselves. The study is aim to present a child sexual abuser case who molested three children due to his friends' compulsion and discuss the factors which move the abuser to molest.
Case: Three victims of children, who were 9-8-6 years of age and a 13-year-old boy as a suspected molester were sent to our department for examination by Attorney General. One of the victim told that the molester was their relative and abused his ano-genital region by his penis one time. Other victims' statements were similar. Examination of the general body and genital region of the victims didn't show any traumatic findings.

During the examination, suspected child told that he abused the victims' anal region one time a number of months before. Because his friends were often saying him "Everybody do it. Why you didn't do it till today? You didn't know how to do it? Really?" etc. They often teased to him. These speeches made him nervous. Therefore he decided to make his behaviours because of his friends' compulsion. Anybody didn't make such behaviours to him up till now. It was learnt from his mother that he has social difficulties, statement disability and he was unsuccessful in school. He received a treatment for anxiety two years before. Results of examination and tests indicated that 62 oral mental score, 88 performance mental score, total 72 mental score. Attention Deficit Hyperactivity Disorder, anxiety disorder, learning disability and borderline intellectual functionality were diagnosed.
Conclusion: This case shows us that the child's friends may canalize tho him/her to the wrong ways. Therefore the child may beleive that these behaviours are normal and doing these things is necessary for him/her. Thus s/he may commit some crimes such as sexual abuse, robbery, etc. Education and close attention of family will be useful to assist the children for prevent such wrong acts.

PP-775

Attitudes among residents in forensic medicine toward the survivors of childhood sexual abuse

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Aims: Childhood sexual abuse (CSA) spoils the survivor's trust and sense of safety in the world. Careless over-interpretation of the data about the long-term consequences of CSA in survivors might lead to some misunderstandings and result stigmatization. Frequently, children are reticent to report such abuse. Reason for this reluctance may be previous negative experiences with professionals or hidden prejudices toward the legal system.
Method: We investigated the attitudes of forensic medicine residents toward the survivors of CSA. All participants were asked to complete a questionnaire about stigmatization, anonymously.
Results: There were 49 residents from Forensic Institute in our study, 42 of whom were male. Of the participants, 77.5 % responded negatively about "asking a survivor of abuse to supervise their child for a few hours". When asked, "What would you think if your child wanted to marry a survivor of sexual abuse?" 85.7 % of residents displayed negative attitudes toward that idea. 71.4 % of residents were reticent to the suggestion of "a sexual abuse survivor can control his/her impulsivity". Additionally, 44.9 % of residents agreed that "If a childhood sexual abuse survivor is present in street/district, I do not allow my child to go out alone"
Conclusion: It seems essential to focus on a better understanding of risk and protective factors that affect the adjustment of childhood sexual abuse survivors. Forensic medicine residents appear to be a logical and important target for this aim. Forensic medicine residents seem to distance themselves from or have negative thoughts about childhood sexual abuse survivors, particularly when the issue involves their own children and/or social situations. However careless and undetailed interpretations of studies which have inconclusive data regarding types of psychopathology, the duration of the abuse, the likelihood and reasons for remaining non-symptomatic, and the long-/short-term impacts and outcomes of childhood sexual abuse might lead such stigmatized attitudes in forensic medicine residents.

PP-776

Inquiry on Juvenile Sexual Abusers in Sicily (2005–2009). Clinical Forensic Aspects and Psychopathology Features

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Social reflection on adolescents victim of sexual abuse increased in last decades according to higher social awareness of importance of relationship during childhood. Sexual psychopathology can be studied within the framework of impulse control disorders and it seems considerable to understand personality features of young abusers in order to find effective care strategies for themselves and overcome social blame which can easily influence a neutral approach of care. The presented research is a part of a study aimed at structured therapeutic interventions for young abusers to avoid crime reiteration and take into specialized care abusers who were victims himself of sexual offences. The knowledge of this phenomenon (so-called "cycle of abuse") was carried out with an interdisciplinary approach, by using social, clinical and forensic indicators: in fact, abuse should be understood through the analysis of bio-psycho-social background of the abusers, their psychological functioning, psychopathological personality features and relationship with adolescents. This investigation was carried out on 67 case files concerning sexual crimes made by juvenile offenders since 2005 to 2009 at Juvenile Penal Court, first and second instance, district of Palermo. The inquiry completed in autumn 2011 shows that juvenile offenders usually live in deprived social contexts and often suffered adverse life events with psychological consequences. 16,5 % of abusers were victims of sexual abuse in their childhood. The forensic approach detail analyzes the criminal offense taking into account type of sexual intercourse, possible combined physical violence, abuse and delay between complaint / clinical examination, characteristics of site of abuse, medical investigation and biological collection (sampling blood, sperm, DNA analysis), according to the Adams's classification.

The analysis of psychological patterns underlines dysfunction of the expression of emotions and impulses which sometimes constitutes specific disorders as it has been observed by psychiatric and psychological examinations carried on during the legal proceeding.

The most commonly diagnosis trend is a personality disorder of the dramatic cluster, according to the DSM IV, or a personality "organization" expressing the vulnerability to developing a personality disorder.

The clinical assessment could be modified during penal trail because of expert evaluation required in some cases psychiatric treatment aimed at alleviating symptoms such as the use of benzodiazepines.

Our research pointed out that, in the early stages of penal trial, there weren't any supportive or counseling therapeutic interventions focused on feelings of rage, fear, and suffering for stigmatization.

PP-777

The Comparison of Macroscopic and Colposcopic Examination Findings in Sexual Assault Cases

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Aim: In this study, it is aimed to evaluate the sociodemographic, examination, consultation and laboratory findings, to compare the macroscopic and colposcopic genital examination findings in cases which are sent with sexual assult claim.
Method: The cases which are sent to ME.U.M.F. Department of Forensic Medicine Polyclinic by prosecutor's office and/or courts with sexual assault claim and accepted to be examined between June 2010-June 2011 are included to the study.
Findings: 113 cases included to the study, 85.84 % were female, 14.15 % were male, average age was 15.57±5.73. 92.2 % had their own mothers, average mother age was 41.2±8.38. 85.8 % had their own fathers, average father age was 46.34±8.38. 88.49 % knew the suspect and 40 % were victims' lover. Crime scene was suspects' house in 41.59 %.

24.52 % of the victims applied in first 24 hours. 33.62 % of the victims expressed that the sexual assult was anal, 30.97 % of the victims expressed that the sexual assault was vaginal and 17.69 % of the victims expressed that the sexual assault was both anal and vaginal. In hymen examinations done in gynecological position; the hymen shape was determined typical in 97.75 %, intact in 64 %, not intact in 36 %. 61.53 % were old, 23.07 % were new ruptures.
Discussion: It is useful for us at diagnosing in cases: whether the finding on the hymen that is not reaching to the base of the vagine is an old rupture or a natural notch; whether the finding on hymen that is not reaching to the base of the vagine is a natural notch and/or an old rupture and/or a new rupture, whether the finding on hymen that is reaching to the base of the vagine is an old rupture and/or a new rupture at females having finged hymen by examining between the fringes; to identify a rupture on the hymen that is started to heal and to comment on the possible time of the rupture by better evaluation of the other findings using magnification; to protect the rights of, the doctor who made the examination, the person who had been examined and the suspect by eliminating different claims by taking photos of determined and/or not determined lesions; the cases that can not be decided if it is suitable or not for sexual act because of wider hymenal apertures than normal.

SUDDEN DEATH

PP-778

The Sudden Death of the Child and Congenital Heart Disease: Report of Two Cases

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Data on cardiac causes of sudden death in children (SD) are rare in the pediatric population.

The main purpose of this work is to highlight the role of the contribution of the medico-judicial in establishing the causes of sudden death especially in children.

To do this we will present with an iconography, two observations: the first is a female child, 18 months old, died suddenly, without making a prodrome to screen, the second concerns a male child, aged 13, suddenly decided after effort at the beginning of a football game and having a history of ventricular septal (VSD) treated surgically.

An autopsy for both victims helped to highlight a ventricular septal (VSD) Discovery autopsy.

Postmortem investigations (macroscopic and microscopic) take a major place to exclude a violent cause and determine the cause and / or mechanism of death during unexpected sudden death of the child.

PP-779

A retrospective study of gastro-intestinal system related causes of sudden death

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Background: The objective of medicolegal autopsies in sudden and natural deaths is to rule out the possibility of any unnatural element of death in otherwise normal individual. Though the major cause of sudden death is cardiovascular diseases but gastrointestinal diseases also accounts for 10 % of the total. The aim of the present study was to study GIT related causes of sudden death.
Methods: This autopsy based retrospective research was conducted at Kasturba Medical College, Mangalore from the cases autopsied at District Hospital, Mangalore from May 2007 to April 2011. Persons found dead or who died within 24 hrs after onset of terminal illness and having no history of any injury or poisoning were selected for study.
Results: Out of 2515 autopsies conducted during the study period 274 (10.89 %) were of sudden death, of which 34 (12.40 %) were due to GIT related diseases. Out of which 88.23 % were male and 11.76 % were female. Majority of cases (47.05 %) were between 40–60 years followed by 20–40 years (41.17 %). Haemorrhage due to rupture of esophageal varices (29.41 %) was found to be the major cause of death followed by acute pancreatitis (26.47 %). Sudden death due to GIT related diseases were more in underweight people.
Conclusion: In our study, rupture of esophageal varices was a major cause of death, emphasizing need to create awareness among people about health and regular medical checkup, especially after 40 years of age. In addition, considering the possibility of GIT diseases resulting in sudden unexplained death of an individual is stressed.

PP-780

Fatal Bacillus cereus sepsis in an immunocompetent child

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An apparently healthy 3-year old boy went to bed, woke up a few hours later declaring he felt unwell and had vomited. In the morning his father found him death in bed. External examination showed a discrete petechial rash on the thorax, neck and lower limbs. Autopsy findings and medical history were negative for any pre-existing illnesses or potential causes of death. An enterotoxin producing Bacillus cereus was isolated and identified from the hemocultures and a bottle of water. Other food was also tested but showed no contamination. The cause of death was determined to be multiple organ failure due to an enterotoxin producing Bacillus cereus sepsis. A few days later his younger brother was admitted to the hospital with a skin infection. Bacillus cereus was isolated from the wound, and the boy healed after antibiotic therapy.

Bacillus cereus is known for causing eye infections and food poisoning in immunocompetent hosts and accounts for 2-5 % of all food borne illnesses. Fulminant B. cereus septicemia with multiorgan failure and death is more often associated with immunosupressed patients (malignancy, neutropenia, corticosteroid therapy) or seen in the presence of intravenous catheters or devices. The rapid

development of sepsis and sudden death in this otherwise healthy young boy signifies that B. cereus infections should not only warrant suspicion in the immunosupressed. This disease usually goes underdiagnosed, but with this case report we would like to report that it is a possible cause of sudden death and could present a potential threat for the closest surroundings.

PP-781

Epidemiologic characteristics of sudden cardiac death in north Tunisia

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Introduction: Sudden death represents the most frequent cause of death in thanatological activity in forensic pathology.

It's a natural death which can occur in any circumstance, at any time, among all age groups, which an underlying pathological condition or not. It is a natural death excluding all forms of violent deaths and it is related in most cases with a cardiac cause that has led to a sudden cardiac arrest.

Method: We conducted a prospective study in the Department of Forensic Medicine of Charles Nicolle hospital over a period of 24 months during which we collected all cases of sudden deaths that represent 542 cases among 3192 autopsies.

We conducted an epidemiologic investigation using questioning that has been subsequently supplemented by autopsy that included a detailed examination of the heart as well as additional histological examinations and toxicology.

Results: Sudden cardiac death is the most common cause of sudden death representing 80 % of all sudden deaths. Men are much more affected than women (79 % against 21 %). Coronary hart disease is the most common cause of sudden cardiac death with a frequency of 49 %. In the group aged between 25 and 45, 64 % are smokers. In most cases (67 %) death occurs at rest and in 20 % of cases over the weekend. It was noticed that the vast majority (78 %) died outside of hospitals and only 16 % received medical transport to the hospital.

Family history of sudden death was searched during the investigation in the immediate family of the cases studied: father, mother brother and sister in 10 % of such history were noted with the following distribution (father46%, mother 20 %, brother 22 %, sister 11 %). All cardiac risk factors were studied and the results were matching the literature data.

Conclusion: Sudden death is unexpected and unexplained which makes it suspect and motivates the request for autopsy allowing us to better investigate the sudden cardiac death. Indeed, certainly the current technological advances have provided a good exploration of cardiac function on living, but in people with no previous medical history and who have never been explored, only an autopsy is able to answer the questions of clinicians.

PP-782

Sudden death in a young,divorced, pregnant woman due to neglected,undiagnosed breast cancer

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Although breast cancer is the second leading cause of morbidity and mortality after skin and lung cancers in women population, however examination of a body with a such frequent disease in a medico-legal autopsy room

Which is neglected personally and undiagnosed until death is a very rare tragedy.

I hereby to introduce a 26 year old, divorced pregnant woman who had history of fever and cough two weeks before death without any compliance to medical management. With the worsening of her condition transferred to a general hospital but she died few hours after admission. Her body referred to legal medicine department of Shiraz suspicious to illegal abortion complication.

Medico-legal autopsy confirm that she suffered from a long-lasting, neglected breast cancer with distant metastasis to internal organs.

PP-783

Death Due to Thrombotic Thrombocytopenic Purpura in Pregnancy: Case Report With Review of Thrombotic Microangiopathies of Pregnancy

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Maternal death during pregnancy, although uncommon, may result from a broad range of conditions. In this paper, a case of thrombotic thrombocytopenic purpura diagnosed by postmortem examination is presented. Thrombotic thrombocytopenic purpura is one of a subset of diseases that result in the formation of microthrombi within the vasculature, either as a primary or secondary manifestation. Other conditions included in the differential diagnosis during pregnancy are hemolytic uremic syndrome, systemic lupus erythematosus, preeclampsia-eclampsia and the HELLP syndrome, acute fatty liver of pregnancy, antiphospholipid antibody syndrome, and disseminated intravascular coagulation. The histologic manifestations of these diseases can be similar and in most cases do not provide adequate information to accurately differentiate these diseases in the postmortem period. This paper addresses the need for clinical history (i.e., symptomatology, trimester of onset) and antemortem laboratory testing in addition to a thorough autopsy to accurately differentiate among the conditions named previously. In the absence of an adequate clinical history and antemortem laboratory testing, the more general diagnosis of "thrombotic microangiopathy of pregnancy" is acceptable.

PP-784

Homicide by Commotio Cordis in Malaysia: A Report of Two Cases

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Background: Commotio cordis is an established cause of sudden death following nonpenetrating, often minor impact to the chest. Death ensues as a result of ventricular arrhythmias and eventual cardiac arrest. It commonly occurs amongst young athletes participating in sport-related activities albeit increasing reports have associate deaths by this mechanism with falls and motor vehicle accidents. However, homicide by commotio cordis is invariably a rare phenomenon.
Case Reports: We present two cases of sudden death in young adults attributed to commordio cordis following assaultive blows to the chest. In the first case, a 25 year-old man was involved in a verbal commotion with his friend when he suddenly collapsed following a direct blow to his left chest by a long, cylindrical-shaped implement. The event was witnessed by a passer-by. Postmortem examination demonstrated an oblique, spindle-shaped tramline bruise over the left lower chest about 3 cm below the nipple with associated left lower lung contusion. The heart was morphologically normal. Analysis of the usual body fluids

did not detect any drugs of abuse, alcohol or common toxicants. Death was attributed to commotio cordis (blunt trauma to the chest).

The second case involved a middle-aged man who was found dead following an altercation during a gambling session. The assault itself was unwitnessed. In addition to a scalp laceration and facial abrasion, the postmortem examination also demonstrated an oblique tramline bruise across the chest with a fracture of the right 6th rib. The heart showed focal anterior epicardial hemorrhage, endocardial fibrosis and subendocardial hemorrhage of the left ventricle, and healthy coronaries. There was also mild subarachnoid hemorrhage that was not considered fatal in nature. His blood and urine alcohol levels were 244 mg% and 350 mg% respectively. In view of the blunt impact to the chest across the precordium, the heart findings, and the absence of any other fatal trauma, death was attributed to commotio cordis with alcohol intoxication as a contributory factor.

Conclusion: Establishing homicidal manner of death in commotio cordis can be a challenging process. Detailed scrutiny of event cimcumstances is paramount. When a postmortem examination shows evidence of blunt impact to the precordium in the absence of any other fatal injury or potentially fatal natural disease, the possibility of commotio cordis should be considered. Eyewitness account, if available, may also serve as an additional corroborative information.

PP-785

Sudden death as the first manifestation of a myofibroblastic inflammatory tumor in a young male - case report

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With no previous signs or symptoms, a 20 years old male had an episode of syncope at his home and was taken to a hospital emergency department of Porto. When admitted in the Emergency Room (ER) he started a clinical picture of cardiorespiratory arrest. Cardiopulmonary Resuscitation (CPR) was attempted for 75 minutes but the patient couldn't get recovered from the nonshockable rhythm he presented with. Death was verified with an undetermined cause and, according to the Portuguese law, the body was taken to the National Institute of Legal Medicine (North Branch), so that the medico-legal autopsy could be performed.

In his previous medical history could only be found a bipolar disorder, diagnosed years before and controlled with lithium.

In the external necropsy exam the only findings were those that resulted from intervention of the medical assistance in the hospital - puncture lesions and thorax abrasions from defibrillator shocks. In the internal necropsy exam was found a retroperitoneal mass that measured 14 x 8 x 4 centimeters and surrounded the abdominal aorta, the inferior vena cava and the common iliac veins. The inferior vena cava diameter was straightened to a minimum of 0.5 centimeters and a mural thrombus comprising more than 90 % of its lumen could be observed. Additionally was found a similar mass in the upper pole of the left kidney measuring 3 x 2 x 2.5 centimeters.

The anatomopathological exam revealed that the mass found in the retroperitoneum and in the kidney was a myofibroblastic inflammatory tumor. The inferior vena cava stenosis was confirmed and signs of flebitis with recent thrombosis in its lumen were diagnosed.

A peripheral blood toxicologic analysis only found lithium in a therapeutic level.

The association between the necropsy findings and the anatomopathological exam allowed the forensic pathologists to admit an acute cardiac failure in consequence of the reduction of pre-load caused by the inferior vena cava thrombosis in consequence of the myofibroblastic inflammatory tumor as the cause of death.

The myofibroblastic inflammatory tumor is considered a benign neoplasia of stromal origin but presented in this case with sudden death as the first manifestation.

PP-786

Coronary Artery Dissection: A sudden death case

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Isolated coronary artery dissection may precipitate acute infarction and sudden death in adults. The process starts as a subadventitial hematoma compressing the vessel lumen from outside. This hematoma may rupture into the lumen and as a result a dissection tract is created. Though the pathogenesis of dissection is unclear, authors stress that an adventitial inflammatory process is present. This inflammatory process is with eosinophils and basophiles. The process is not an arteritis and no medial inflammation is present.

This phenomenon is more common in women and may occur during pregnancy. Spontaneous coronary artery dissection is a cause of sudden death. The subadventitial hematoma compressing the lumen can usually be seen by the naked eye.

A 40 years-old woman was stated to be dead on admission to the emergency. After examination by legal authority, she was referred to ATK for a medico-legal autopsy. Macroscopic and microscopic evaluation of heart showed the presence of dissection of left coronary artery. A sudden cardiac death resulting from coronary artery dissection was concluded.

We discussed the role of forensic autopsy performed by a specialist in sudden death cases in order to establish a scientific reason for sudden death and provide reasonable information to the family.

PP-787

A Rare Case in Autopsy Specimen: Fungal Myocarditis

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Myocarditis is the inflammation of the myocardium and damages the heart muscle without causing any pathology of coronary arteries. The cardiac muscle tissue may or may not be affected by myocarditis.

Infectious pathogens may play role in the etiology of myocarditis as well as it may be a non-infectious one. The infectious agents are viruses mostly as pathogens. The other pathogens are bacteria, protozoa, rickets, parasites and fungus.

Although fungal myocarditis is rare condition yet however the incidence of fungal diseases had dramatically increased in correspondence of the increase in immune compromised patients.

A variety of signs, such as chest pains, heart failures and rhythm abnormalities can be noticed in myocarditis cases.

The clinical presentation of myocarditis is variable and often mimics myocardial infarction. The diagnosis of acute myocarditis is on the basis of the clinical presentation. The history of the case, physical examination, laboratory data, electrocardiograpic and echocardiographic findings, as well as elevated cardiac enzymes and lack of epicardial coronary artery disease can be helpful in differential diagnosis of myocarditis with a myocardial infarction.

The case is a 16 years old young male. He had suddenly collapsed and was found dead. During the autopsy, coronary arteries were morphologically recorded to be normal. There were no macroscopic morphologic pathologies in any of the organ and / or tissues. Toxic-screening was free of any type of drugs or chemicals as well as alcohol. There was no significant finding in any of the organs histopathologically except the heart.

There was serious infiltrative mixed inflammation in the myocardium. We had noticed fungal hyphae in this infiltrate. The cause of death had recorded as fungal myocarditis. Fungal myocarditis is rare condition and sometimes it can be difficult to diagnose. We will discuss the condition, sudden deaths and differential diagnostic criteria as well as the importance of handling the heart during the autopsies.

PP-788

Sudden death it is a public health problem in Algeria? LAIDLI MS and coll Forensic Service CHU Bab El Oued ALGERIA

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The department of Legal Medicine of CHU of Bab El Oued. practice regularly for several years of forensic autopsies.

These autopsies, we found that sudden death is a high prevalence of this practice and thanatological to affect a population of younger and younger.

The authors of this paper propose to conduct a retrospective epidemiological study of sudden deaths autopsied in the serviceover a period of ten (10) years.

This scientific study aims to:

1. To identify organic causes of these sudden deaths.
2. Determine the epidemiological indicators of these deaths namely:

a) The socioeconomic profile of the deceased.
b) The manner of death.
c) risk factors.
d) The medical history.

3. Based on the results of this scientific study, to lay thegroundwork for prevention of

PP-789

Correlations between CCN1 immunoexpression and myocardial histologic lesions in sudden cardiac death

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Background: Atherosclerosis of the coronary arteries is the prevalent cause of sudden cardiac death (SCD) in adults over the age of 30, but it is also freguent in younger subjects. Undiagnosed coronary artery disease raises the suspicion coronary vasospasm (eg.localized) or non occlussive luminal narrowing (typically present in young adults. In the anatomopathological setting a consensus has long been reached as to the minimum grade of lesion compatible with SCD, and diagnostic criteria have been proposed for coronary artery disease. It is essential before the final medicolegal diagnosis, to not only study the myocardial morphology but to histologically of the coronary branches but to histologically analyse the myocardium of both ventricles by standard and targetting sampling of evident or suspicious lesions as well. CCN1 (CYR61) is a member of the CCNfamily of secreted matricellular proteins, it can regulate the expression of genes involved in angiogenesis and tissue remodelling. The latter mechanism appears to be of vital importance in the pathophysiology of sudden cardiac death.

Method: We performed an immunohistochemical analysis on 62 cardiac tissue specimens deriving from individuals of young and middle age who had expired from SCD. A control group of 20 heart tissue samples, deriving from vehicle accident victims was stained beforehand with CCN1 antibody and all samples were CCN1 immunonegative. A statistical analysis was then performed.

Results: CCN1 immunopositivity was detected in 80.6 % of all specimens. Semiquantitative statistical analysis of the staining results revealed that CCN1 immunonoreactivity was signifigantly associated with ischemic morphology and hypertrophy myocardial fibers, interstitial edema and atheromatosis of coronary arteries in more than 10 % of myocardial fibers.

Conclusion: Taking the above correlations into account ischemia appears to induce myocardial expression of CCN1. Therefore CCN1 immunostaining could be evaluated as a complementary tool in the assessment of ischemic areas when no tissue evidence of necrosis is available.

PP-790

Sudden Pediatric Deaths (retrospective analyses of the years 2007–2010, in Adana)

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Sudden deaths occurs within the 24 hours of onset of the symptoms and remains as undiagnosed.(WHO) Sudden death cases convey a challenging group as a means of detection of the cause of death. Sudden death cases are particularly tragic and hard experiences for the family and community, no matter where and at what age.

The aim of our study is to present origins and characteristics of sudden childhood deaths and discuss them with literature.

An annual average of 1700 post-mortem examinations are conducted at Morgue Department of Adana Branch of Forensic Medicine Council. We evaluated the autopsies of sudden child death cases under 18 years old, retrospectively, between January 2007 – December 2010. A total of 358 cases were included. Cases were stratified according to age, into six different groups: <1 month old, 1 month-1 year old, 1–5 years old, 5–10 years old, 10–14 years old, and 14–18 years old. The data including gender, age and possible cause of death were obtained from autopsy reports, and summary tables and figures were constructed.

We have examined sudden child death cases under 18 years old, and evaluated the causative system pathology distrubition, incidence of unidentified deaths, and age and gender characteristics.

PP-791

Evaluation of Cardiac Tamponade Cases (A Five Years Survey)

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Cardiac tamponade is a clinical condition at which cardiac flow and stroke volume decreases due to pericardial effusion. As it's life-threatening characteristic, it must be diagnosed and treated timely. Cardiac tamponade may lead to sudden and unexpected death.

We evaluated 79 cases of cardiac tamponade cases between 2007–2011, retrospectively, that were examined post-mortem at Morgue Department of Adana Branch of Forensic Medicine Council. Data, including age and gender distribution, the localization of the causative condition for cardiac tamponade, volume of blood collection in pericardium, and other gross and microscopic findings that accompany cardiac tamponade were collected and summarized in graphics, and tables.

Among the 79 cases [63 male (%79,7) and 16 female (%20,3)], 18 (%22,8) were between 61–70 years old, which is the largest age group in this study. Causes of cardiac tamponade were rupture of dissecant aortic aneurysm in 51 cases (%64,5), myocardial rupture in 26 cases, rupture of left ventricule with aortic dissection in one case, and rupture of pulmonary artery in one case. Evaluation of gross and histopathological findings revealed pulmonary edema in 21 cases, severe obstruction of coronary arteries in 24 cases, moderate obstruction of coronary arteries in 10 cases, mild obstruction of coronary arteries in one case, and costal fractures in 10 cases.

We aimed to determine the incidence of sudden unexpected death from cardiac tamponade in our region, as well as case characterstics.

PP-792

Causes of sudden death: An Epidemiological Study

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Sudden death syndrome (SDS) is the well discussed task in available forensic literature. Different scientists of different fields found different causes of sudden death. It is well established result that the cause of sudden death cannot be determined in a particular field, there may be different causes at the same time also, and many causes can also accumulate together. In the present paper, the all causes of available in the existing literature are accumulated and reviewed from the epidemiological point of view. The result shows the different categories of causes of sudden death on the basis of which these causes are categorized. These categories of causes of are expected to assist the sudden death investigation.

TRAFFIC ACCIDENTS AND RECONSTRUCTIONS

PP-793

Prevalence And Pattern Of Child Restraints Use In Cars, Mashad, Iran

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Background: Although some law reinforcements has recently decreased the high rate of death attributable to road traffic crashes in Iran, there are still no laws necessitating the use of Child car safety seats (CSS)) in Iran. The purpose of the study was to determine the prevalence and pattern of CSS use in Mashad, Iran.
Method: Mashad is the second highly populated city in the North-East of Iran with high injury death and morbidity. We performed a survey on 590 parents of kindergarten children who owned an automobile and were willing to participate in the study. The demographic characteristics, the history of road traffic crashes, history of receiving advice on CSS use and if they used CSS in the car were recorded in the questionnaires.
Results: About 25.4 % of interviewed parents owned a CSS, among them 87 had bought, 19 had borrowed and 44 had received it as a gift. Of these 150 families with CSS, 113 (75.3 %) did not use the CSS anymore as it was suitable for the infants. Thus, at the time of the study 37 families used
CSS in their cars (6.3 % of total). The main reason for nonuse was reported as not feeling the need (n=197), followed by high price (n=103).
Conclusion: This study shows that the use of CSS in cars is rather scarce and should be promoted in Iran. There is also evidence of knowledge gap regarding effectiveness of CSS which needs to be addressed by health authorities.

PP-794

knowledge, attitude and performance Of drivers of vehicles in traffic in the city of Shiraz(South of Iran)

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Introduction: Statistics of traffic accidents and deaths, it suggests that many events, the nature or structure of the roads and roads that are affected, resulting from the drivers. This study aims to explain the knowledge, attitude and practice how to drive in city traffic regulations were.
Method: Cross-sectional study on 135 drivers of city vehicles has been. Random sampling method was in the 9 of the Municipal city of Shiraz and the 15 drivers were selected randomly. Chi-square test for qualitative variables and, if necessary, the odds ratio (OR) and confidence intervals were used.

Reliability (Reliability) questions in each area was assessed using Cronbach's alpha index.Structural reliability (Construct Validity) questions in each area using principal component analysis (Principal Components Analysis) was examined.
Results: Of drivers who were examined, 91/8 % male and 8/2 % were women who had to work 100 % of their and the 59/3 %, 68/1 %, 49/4 % with the knowledge, attitude and performance in terms of traffic.

After adjusting for confounding variables (using a logistic regression model) knowledge, attitude and performance of drivers in traffic from a statistically significant relationship with one another were not.The relationship between drivers' awareness about traffic rules in their age and education,Variables, education, marital status, occupation and type of car they and the variables age, marital status and gender were statistically significant with regard to their attitude.
Discussion: This study showed a positive attitude and awareness of the drivers have an average, But the performance is poor. The culture of public institutions as well as through all classes of continuous training, drivers will have a great impact on improving performance.

PP-795

Road traffic injuries in Alexandria: A medicolegal study

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Road traffic injuries are one of the leading causes of morbidity and mortality in both developed and developing countries. The present work aimed to study the characteristic of victims of road traffic

accidents, the pattern of their injuries and to determine the different risk factors of the accidents. It aimed also to study the role of alcohol and cannabis in the occurrence of such accidents and to assess the severity, prognosis and outcome of different injuries. The study was carried out on injured victims of road traffic accidents (RTAs) admitted to the Emergency Department of Alexandria Main University Hospital during the period from the first of January till the end of June 2008. The total number of injured victims included in the study was 1016 victims. The study showed that: victims of RTAs were more likely to be in the age group 10–30 years, Nearly three quarter of the victims were males. Pedestrians accounted for the majority of RTAs victims (66.8 %) while back seat occupants represented the highest number of occupants involved in car accidents (11.8 %). Drivers represented only 5.2 % of victims, the least numbers were among pedal cyclists (3.1 %).The commonest site of injury in all victims was the head and neck (94.5 %) followed by lower limb injuries (47.1 %). The majority of drivers (73.6 %) and only 26.9 % of front seat occupants were using seat belt at the time of accidents. The use of seat belt did not prevent head injury or chest injury in drivers. The use of helmet by motorcyclists proved to be highly protective against head injury. Nearly half of drivers showed positive results as regards the presence of cannabinoid in urine while none showed alcohol positive results. NISS was superior than GCS in predicting the outcome in severely injured and intubated patents while GCS is more reliable in predicting severity of head injury. The level of serum CK was more useful as a trauma marker in assessing severity and predicting the outcome of victims of RTAs than lactate. 9.7 % of the RTA victims died and 2.5 % developed infirmity. The highest number of deaths were among pedestrians & back seat occupants. The victims who died were at extremes of age. The majority of the deaths had head injury, they had the highest mean NISS, severe GCS, highly significant levels of CK.Victims with infirmity had the youngest mean age.

PP-796

An unusual case of accidental decapitation due to tamping machine: case report

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Background: The Authors present an uncommon case of accidental decapitation in a worker of a railway line. He was in close proximity to a ballast machine that is formed by a tamping unit and a lifting/lowering hydraulic cylinder that pack the track ballast under railway tracks. The operations are controlled from the control cabin by an operator. The Ballast Cleaning Machine carries-out deep screening of ballast, by cutter blades that dig out ballast from under and around the sleepers, and conveyor belt transfers it to the on-board cleaning equipment. The machine goes into reverse and the blades rotate counter-clockwise.
Method: The victim was a 45-year-old man who was located to the left of BCM, near the cutter blades, checking the correct progress of operations wearing appropriate safety equipment (helmet, headset and reflective vest). He was probably bent near the chain when he was slipped due to the instability of the ground, being engaged on the helmet or on the jacket by the chain's teeth and transported to the right arm of the BCM. Therefore the head was literally cut thorough the passage in the BCM, whose size (45 centimeters height and 40 centimeters wide) did not allow the passage of whole body.
Results: The autopsy findings show the head and right forearm detached from the rest of the body.

The longitudinal diameter of the head was 28.5 centimeters and the diameter of the laceration at the base of the neck was 15x10 cm.

The laceration line passed through the high left lateral to the low right lateral and posterior part of the upper cervical region. Head and neck were covered with powdered material. The airway was severed at the trachea level. The laceration present in the cervical region had a longitudinal diameter of 21.5 centimeters and transverse diameter of 16 centimeters showing heart, part of lungs, trachea and neck vessels. Excoriated streaks and de-epithelialisation area were observed in whole body even if mainly in the dorsal region; these injuries were due to the action of sliding on the stones present in the binary. The helmet and the headset were broken.
Conclusion: In the context of the risks associated to railway's activity this case represents an unusual example of beheading by stripping of the head during a shift with heavy machine. No other similar cases are reported in literature.

PP-797

Simulation tool assessment for the determination of riders' injury severity in motorcycle-car collisions

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Background: The work is based on the type of accident 413 according to ISO 13232, in which the front part of the upright motorcycle crashes the side door of a car. This kind of accident is happening mostly at intersections and crossroads when the rider cannot find enough time to avoid the crash. These days different software packages are being used to simulate the accidents. Sensitivity as well as options for model variation are pointed out as critical aspects in such simulations.
Method: A crash test performed by DEKRA in the same type has been used as input to calibrate the simulation. In this test, a motorcycle hit on a stable car at a velocity of 48.5 km/h. The software package MADYMO is used for multi-body simulation. The driver is a Hybrid III dummy model. The motorcycle is a Yamaha Fazer and the car is a Ford Taurus. In addition to the kinematics of the motorcycle and the dummy, the results of the HIC and peak head acceleration are considered in the calibration. An assessment is performed with this MADYMO setup and a comparable one in PC-Crash.
Results: The HIC and peak head acceleration results by decreasing velocities show more proper tendency by MADYMO software than PC-Crash. Also the kinematics of the dummy and motorcycle were simulated accurately with MADYMO.
Conclusion: In future working steps the MADYMO simulation will be used in a real accident case of the same type and a comparison of the effects of integrated safety systems in this scenario will be evaluated. PC-Crash program has limitations to evaluate the right injury levels of the motorcycle riders.

PP-798

Evaluation of the Effects of Disabilities due to Traffic Accidents on the Quality of Life Using SF-36

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Purpose: The purpose of this trial is to investigate the impact of disabilities due to traffic accidents on the quality of life, using the SF-36.

Methods: A total of 168 patients injured in traffic accidents that had been referred to the Department of Forensic Medicine in order to obtain health reports indicating their degree of disability were enrolled in the trial, and the control group comprised of 122 cases. For patients regarded as having recovered based on the examination and consultation findings, the degree of disabilities for injured body parts were determined based on the related section of the Disability Regulation. The quality of life was calculated by using SF-36.
Results: There was a total of 168 cases in the patient group, 59 women (17.9 %) and 138 (%82.1) men. A statistically significant difference was observed between the groups in terms of the injured body parts. The femur, tibia and/or fibula, vertebrae, radius and/or ulna and the humerus were the most frequently fractured bones. The degree of disability in the patient group was 19.22±17.73. Together with the scores of the eight subscales of SF-36, the MSS and PSS in the patient group were significantly lower compared to the control group.
Conclusion: Among individuals involved in traffic accidents resulting in disabilities, there is deterioration in the quality of life. An update is required in regulation with the addition of deterioration in the quality of life and pain items, and SF-36 scale may be beneficial in this regard.

PP-799

Traffic Accidents and Lower Limb Injuries

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Background and aim: Lower limb the most common body region injured in various types of injuries resulting from car accidents and injuries in the second area affected is anterior body injured and The most common injuries in motorcycle accidents.This injuries was cause of long-term treatment, permanent disability and shall pay heavy damages. In this study, we defects of lower limbs due to accidents, acts investigated.
Materials-methods: In an analytical study using a convenience sample, all subjects followed traumatic accidents Array forensic medicine center in Kerman city, which led to the solar year in the lower limb defects were studied. After researching the data necessary examinations and special investigations, made up a questionnaire and data analysis software was SPSS 15.
Results: In this study 18 % of the total sample were female and 82 % were male. Most people in the age group 30–21 years and 79 percent had below diploma education.. Tibia shaft and proximal area of tibia are so common frequency in the affected individuals were studied. Most damaged(37 %) were in motorcycle and bicycle riding. 50 percent of injuries was on right side, left 45 % and 5 % were caused by both sides. 66 % of those defects were between 0 to 5 %.
Discussion: Based on the results of this study and the fact that most of the incident location on the street (70 %) and the highest position to pass and bicycle (37 %) is therefore vehicle speed control and the necessary changes in motorcycle design and use of safety clothing lower limb fractures and subsequent injury resulting is preventable. Since most of the injured are having education below high school diploma can be creating access to higher education in this area took a long step.

PP-800

Accidental Deaths

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The purpose of this paper is to comparison of the data reflected the accidental deaths in road traffic accident from the scene of death (recorded by the Police) and the Morgue (recorded by the Department of Forensic Medicine). As a sample there were taken the data published for the period January to March 2011.

While at the scene of death for this period there were recorded 22 cases; only 6 cases were sent to the morgue. According to this data, it comes out that the number of accidental deaths in road traffic accident from the scene of death and the morgue give different figures. The number of such deaths in the scene of death is much higher compared to the number in the morgue. Based on the legislation in force in Kosova, the performance of autopsy is mandatory for accidental deaths in traffic. While the recorded data show that for more than half of accidental deaths in traffic the autopsy has not been performed.

PP-801

The Relationship Between Amphetamine Use By Professional Truck Drivers And Traffic Accidents In Minas Gerais/Brazil

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Traffic accidents represent a worldwide public health problem and have greatly impacted morbidity and mortality rates. Drowsiness is one of the most important risk factors. In order to avoid it, some professional drivers use psychoactive drugs, which have serious side effects. This study analyzes the relationship between traffic accidents and use of amphetamines. We interviewed 216 truck drivers in Minas Gerais, Brazil, from August 2008 to July 2009. Of those interviewed, 47 % currently use or have used amphetamines. Of these, 75.8 % sleep less than 5 hours per day versus 39.1 % of non-users ($p<0,0001$) and 86,9 % drive more than 13 hours non-stop versus 66.2 % ($p<0.0001$) of non-users. Of those who use or have already used amphetamines, 50.9 % had been involved in traffic accidents versus 26.1 % of non-users ($p=0.002$). The study revealed a strong association between amphetamine use and traffic accidents which are also associated with less hours of sleep and more driving hours.

PP-802

The association effects of the use of Alcohol and Cell Phone in car drivers: 2010

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Objective: This study aimed to analyze the physiological effects on drivers who associate alcohol and cell phone use while driving a motor vehicle.
Methodology: Tests were performed simulating common transit situations. A track made of street cones was used to apply the test. Thirteen male volunteers drove a vehicle at increasing levels of alcohol (0 g / L, 0.2 g / L, 0.6 g / L and 1.0 g / L), combined with the use of mobile phones.
Results: There was no change the number of cones knocked down by the volunteers comparing 0,6 g/L and 0,0 g/L ($p<0,005$). Comparing 0,6 g/L without phone usage and 0,2 g/L using the mobile phone were noticed an increase of 25 % mistakes in the last condition ($p<0,005$). While comparing the situation in which there is 0.9 g / L of alcohol without the use of cell phone and the situation in which there is 0.0 g / L of alcohol in the blood and cell phone usage, it was noticed an increase of 116.6 % of cones down ($p<0,005$).

Conclusion: There is not a reliable parameter for the use of alcohol when driving. In a concentration lower than 0.6 g / L, the use of cell phone can cause more accidents than alcohol alone. However, when this value is exceeded, the alcohol becomes a major cause of accidents. These accidents risk is increased when there is an association of these two variables.

PP-803

Characteristics Of Traffic Accidents In Aydin Between The Years 2005–2011

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Introduction: Traffic injuries come first in rank among all injury-related deaths all around the world. As in many countries, deaths resulting from road traffic accidents are a major public health problem in Turkey.
Objective: It is objected to evaluate the demographic features of the deaths from traffic accidents in Aydın and forensic medicine dimension of them, to establish suggestion based on the data gathered.
Material-methods: In this study, the people who died in traffic accidents in Aydın between 01.01.2005 and 31.12.2011 have been chosen to be studied among from all the deaths reported to Adnan Menderes University Department of Forensic Medicine. Examinations of corpses and autopsy reports of the chosen deaths have been analyzed retrospectively and the demographic features, scene of accident, type of vehicles that were involved in the accident, the relation with the seasons, position of victims in traffic, accompanying ortopedic injuries and whether autopsy was done or not after dead examination were investigated.
Results: It has been found that 334 (18 %) of the 1815 judicially reported deaths were caused from traffic accidents. Of all victims; 281 (%84.1) were male and 53 (%15.9) were female, the age range of all traffic accident deaths in the study period was 40 days to 93 years with a median age of 44.39. Deaths related to trafic accidents were most frequently seen between the ages 21–30 (%18.9). Distrubition of deaths among years revealed that most of the deaths happened in 2007 and 2008 (%17.1). In 110 (%32.9) of the accidents, deaths happened due to strike of a vehicle to a pedestrian. The most frequent vehicle involved in accidents was (%27.2) automobile. It has been found that 118 (%35.3) accidents happened inside the city,133 (%39.8) of them happened outside of the city and in vehicle accidents happened mostly outside of the city while extravehicular accidents were inside the city. 139 (%41.6) victims died on clinical treatment and an autopsy was performed in 75 (%22.5) of them.
Conclusion: Strengthening traffic safety education of the public, rigorous training of drivers for traffic rules and regulations, enhancing the public awareness of road safety, and improving the road traffic management and control measures were the main measures to prevent and control traffic accidents.

PP-804

Evaluation of Traffic Accidents in Geriatric Age

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Introduction: World Health Organization (WHO) reports that the number of people in the geriatric age group is being steadily increased due to causes such as the advancements in the healthcare field and reductions in fertility rate. Traffic accidents take place with a significant proportion in the studies investigating the causes of geriatric patients admitted to the emergency departments. Objective of this study was to evaluate the geriatric cases presented to the emergency department due to injuries caused by traffic accidents.
Material-methods: In this study, 118 patients aged over 65 who presented to the emergency department (ED) of Ankara Atatürk Training and Research Hospital between 01/01/2010 and 01/01/2011 due to traffic accidents were enrolled. Sociodemographic data as well as the diagnosis and treatment courses of these patients were studied.
Results: Of total 469 cases of traffic accidents presented to ED, 118 (25.2 %) were in the geriatric age group. These patients aged between 65 and 108 with a mean age of 74.3. Forty-four (37.3 %) of these were female and 78 (62.7 %) male patients. According to the type of accidents; 65 (55.1 %) cases were defined to be injuried due to in car accidents and 53 (44.9 %) were pedestrian accidents. External injuries were found in 88 (74.6 %) of the cases.The most common consultation was asked from the neurosurgery department with 42 (35.6 %) cases. Radiological examination was needed in 114 (96.6) cases; radiologic pathology was identified in 59 (50 %) of the patients. Of the patients, 32 (27.1 %) were hospitalized. In these patients, the mean hospital stay duration was found as 10.7 days (min:2, max:58). These patients were most frequently hospitalized in the orthopedic clinic. Of the patients, 17 were underwent a surgical intervention, while surgical intervention was not needed in 101. Two of the cases were seen to be dead on arrival and 5 died after the diagnosis and treatment.
Conclusion: Traffic accidents are responsible for higher morbidity and mortality in geriatric age group because of the inability to deal with consequences of traumas. These cases should carefully be considered in diagnosis, treatment and forensic reporting processess after the traffic accidents.

PP-805

Determination of Severe Injuries and Other Evidences to Consider Together for Origin Decision in Train Accidents

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The injuries during rail transportation occur in the following ways: falling from the train, trauma in the train during a train accident, the direct effect of the equipment of the train and hit by a train.

In our study, the autopsy cases performed in train accidents between 2005 and 2011 in Istanbul were evaluated. The prosecutors sent a total of 100 cases for autopsy during that period. Of theses cases, 87 were males, 13 females, with the peak age of 20–29 years (n=20). The peak year for these events was 2008 (n=22). When the legal paperwork sent by the prosecutors for the autopsies were evaluated, the information was inadequate and inconsistent: Based on the witness`s statements, 11 deaths were related to suicide, 7 related to fall from a train, and 2 related to electrical injuries. However, the origin of death hadn't been able to be identified in the rest of the cases (n=80). When the degree of trauma is considered, the findings were as follows: fragmented intensely causing the loss of body integrity in 3, skull fractures in 67, skull/rib/vertebrae fractures in 29, upper and lower extremity and pelvis fractures in 16, upper extremity amputations in 7, lower extremity amputations in 13, amputations of both lower and upper extremities in 2,

great artery lacerations in 28, thorax organ injuries in 67, abdominal organ injuries in 57, both thorax and abdominal injuries in 79, and brain hemorrhages in 74. In 44 of 74 cases with the brain hemorrhage, brain tissue contusion was present, and brain tissue changes could not be assessed due to putrification in one case.

Railroads increased significantly in Turkey within the last 10 years and reached a total length of 11940 km in 2012. The significance of train accidents also increased in parallel to that development. Despite that, the increase in the accidents and related deaths did not reach statistical significance. The current study's findings were in accordance with the country's overall data.

The fact that autopsies were performed without any information regarding the details of the event i.e. crime scene reports, hospital reports and other evidences of the incident in 80 cases, presented a significant limitation for the forensic medicine specialist in identifying the evidences related with train accidents that may help determining the origin coming from pathological conditions (medical malpractice etc.) or accident etc.

PP-806

Is the thums model version 4 a good representation of the 50 th percentile German thorax males?

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Background: The examination of traffic accidents is daily routine in forensic medicine. An important question in the analysis of the victims of traffic accidents, for example in collisions between motor vehicles and pedestrians or cyclists, is the situation of the impact. Apart from forensic medical examinations (external examination and autopsy), three-dimensional technologies and methods are gaining importances in forensic investigations. There are few models constructed for analyzing & reconstructing traffic accidents.

One of these models is the Total Human Model for Safety version 4 "THUMS 4". Toyota Motor Corporation and Toyota Central R&D Labs partnered to develop THUMS virtual model. This virtual model used to simulate the injuries sustained in actual car crashes. As a result, the model is able to detect and predict the most common injuries reported in accident data analysis.

Aim of work: Evaluate & asses if the THUMS version 4 model represents the 50th % German male with its different age group via calculating the measurements of thorax (height Lt. & Rt., depth, & width) with the same measurements obtained from Postmortem computed tomography "pm CT" images using Osirix software.

Methodology: This study was conducted on 98 male cadavers, with ages between 20 yrs and 89 yrs. These age groups were divided into 3 age groups. The measurements parameters include the thorax height lt. & rt., thorax width & thorax depth. This study is carried out in 4 steps:

1. Obtaining the pm CT images from the cadavers.
2. Measuring thorax parameters in the CT images using the Osirix software.
3. Calculating the human models' measurements.
4. Comparing the CT measurements to those of the THUMS 4 model.

Results & conclusion: Comparing the measurements and parameters of the pm CT of the cadavers' thorax, preliminary analysis shows that the THUMS 4 failed to represent the different age groups equally. Regarding the thorax depth parameter, the THUMS4 model represents age group (3) by only 76 %, while it represents age group (2) by only 78 %, and it represents age group (1) by 91 %.

There is a clear discrepancy in the representation of the 3 different age groups. The THUMS version 4 does not equally represent the thorax anthropometric measurements of the 3 different age groups; therefore it will not be accurate in simulating thorax injuries.

PP-807

Individualized forensic human 3d modelling based on ct scans

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Background: Crash test dummies continue to be the accepted standard test device across the auto industry for evaluating the severity of an impact to vehicle occupants and pedestrians in a car crash. But while traditional dummies can measure the force and acceleration that is applied to a body during a crash, they cannot simulate the tissue injuries that result from these impacts. Therefore the need for Computer generated 3D models has strongly emerged in the past few years.

Aim of work: This study is mainly concerned with the analysis and comparison between the measurements of the pelvis and lower limbs of the existing 3d models (HUMOS and THUMS) and the measurements acquired form the post mortem CT images, as well as and the European anthropometric standards, in order to illustrate how accurate do these human models represent the existing European population, and whether these models are adequate or not, and is there a need for additional ones.

Methodology: 102 cadavers (35 females & 67 males) with ages between 20 and 60 years were transferred to the Radiological department, and one of two CT Devices (Philips Brilliance CT 64-channel or GE discovery CT 750 HD) is used to scan the cadaver in multiple series of images using either 0.6 or 1.25 slice thickness scan. These images are then imported into the OSIRIX database, and used to obtain biomechanical parameters, which in turn are statistically analyzed and compared to those of the human 3D models to compare the validity of these models in representing the different age groups of the European population.

Results and conclusion: Initial analysis of the acquired post mortem data and those of the HUMOS female 3D model clearly illustrated a significant variability in the accuracy of different parameters representation by the model. The model represents the female pelvic width by only 66.1 % compared to the actual PM CT measurements, whereas the pelvic width is represented by 94.4 %, and pelvic depth by 98.5 %. The HUMOS male model represents the male pelvic width by 96.9 %, the pelvic width by 91.3 %, and pelvic depth by 89.5 %.

Conclusively not all the biomechanical parameters are accurately represented by the model, as some parameters are more accurately represented than others. This discrepancy may in turn have a drastic impact on the biomechanical properties of the model when used in different simulation scenarios.

PP-808

Difficulties and Scientific Limits Reconstructing Road Fatalities

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Pathologists are frequently called upon to assist in reconstructing fatal traffic accidents by correlating autopsy findings with roadside evidence. Most of the injuries pertinent to a postmortem traffic accident reconstruction are found on the body surface. Generally in a traffic accident, a pattern may constitute a predictable distribution of injuries that is indicative of a specific mechanism by which these injuries were occurred. The following types of victims are recognized: pedestrian, driver/passenger, and motorcyclist.

As far as pedestrian injuries are concerned they may be sustained in one of four following ways: the pedestrian could be struck by the front of the car, sideswiped by the car, injured when the car backed up or struck by two or more vehicles. Questions that will be raised are: was the pedestrian walking, standing or lying in the road; what was the direction of travel of the vehicle; were the brakes being applied at the time of impact; did the driver see the pedestrian prior to the collision? The answer to these questions is based on the distribution of the injuries and especially estimation of bumper injuries. Last but not least the evidence of damage to the automobile and the presence of skin, hair or blood on it are crucial in traffic accidents reconstruction.

During investigation of a motor vehicle accident involving the driver or passengers, injuries caused by specific car gadgets may assist in reconstructing the accident and separate the driver from the passenger. So, there are "Dicing" injuries of caused by small pieces of glass of the door windows, dashboard injuries and injuries caused by the use of seat belts. There are also injuries caused by windshield impact and characteristic imprints found on the driver caused by the steering wheel or steering column and gas or brake pedals.

Concerning injuries of motorcyclists, for obvious reasons they are usually more extensive and more severe than those sustained by occupants of automobiles. In a major collision a helmet or leather clothes provide little protection. Whereas, "brush burns" on the body surface may be reduced by such clothes, internal injuries and fractures are very common. They are observed specific fractures of the skull and "whiplash" injuries of the neck due to sudden deceleration in such accidents.

Both automobile collisions and motorcycle accidents are often related to alcohol consumption and so toxicological analysis enlightens the traffic accident reconstruction in each case.

VIOLENCE AGAINST WOMEN

PP-809

Assessment Of Reproductive Behavior And Women's Compatibility In Unwanted Pregnancy In Mashad

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Background: In Iran significant percentage of pregnancies are unintended or unwanted. In women faced with unwanted pregnancy, lack of satisfaction is created low quality of life and more concern and anxiety therefore they are in high risk to risky behaviors and psychological effects. Proper interventions for prevention of unintended pregnancies is positive step for maternal and child health promotion. Reproductive behavior in unintended pregnancies can be a guide to prevent this occurrence.
Method: Population study was 400 women referring to maternities wards of Mashhad hospitals. They interviewed with using a questionnaire for extracting reproductive behaviors and Compatibility with unwanted pregnancy, Statistical analysis Chi-square test, t test and ANOVA were used.
Results: From participants in this study, 36 % of them had unwanted pregnancies. Mean age of them were 22 years (range 42–16), in unwanted pregnancies mean age of current gestational was 1.9 years and mean age at first pregnancy was 2.2 years more than compare of those in wanted pregnancies, the average age of marriage 1.2 years less than and the average number of children was 1.1 higher than other group. Withdrawal was important factor in unwanted pregnancies. About compatibility and satisfaction at the end of pregnancy 83 % of women who had unplanned pregnancy still were dissatisfied.
Conclusion: Different reproductive behaviors were seen in unwanted pregnancies. Women's awareness about the high failure rate of withdrawal method is an effective measure in reducing unwanted pregnancies. Because of the high prevalence of unwanted pregnancy in the community and these effects of pregnancy on maternal mental health, emphasizing the use of screening tools for detection of psychological problems, counseling and psychological support of women in conjunction usual care during pregnancy and postpartum is necessary.

PP-810

Abortion And Unwanted Pregnancy In Concubine Women Tehran, Iran

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Background: Concubine is a kind of marriage in Iran legislative system has accepted it as a legitimate marriage. Concubine women are who marriage with men based on given dowry, time and reading sermon. We study abortion and unwanted pregnancy in concubine women as a social harm after concubine marriage.
Method: We interviewed with 30 concubine women who refer to "family court of Tehran province" from January to February 2011. All interviews recorded on voice recorder and then got into paper.
Results: According to our results, abortion and unwanted pregnancy have a high proportion in concubine women, they had exposed to physical and mental health problems especially they suffer from some diseases after illegal abortion. In emotional and mental view in most cases they lose the chance of re-pregnancy. They pass much time to relieve their mental harms, most of our samples in interview procedures claimed for a while guilty feeling due to illegal abortion.
Conclusion: Women marriage in Iran is a fusion of tradition and modernity. In Iran society, accepted marriage is permanent marriage. So despite legitimate reputation of concubine in Iran, it is seen as an obscene act particularly for women. Thus, concubine women encountered many problems after their marriage.

PP-811

Honour killing- a case report

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An honor killing (in Hindi this term can be translated as "Samman Hatya") is the murder of a female family or clan member by one or more fellow family members, where the murderers and potentially the wider community believe the victim to have brought dishonor upon the family, clan, or community. This perceived dishonor is normally the result of (a) utilizing dress codes unacceptable to the family (b)

wanting out of an arranged marriage or choosing to marry by own choice, (c) engaging in certain sexual acts or (d) engaging in relations with the same sex. These killings result from the perception that defense of honor justifies killing a person whose behavior dishonors their clan or family.1 Honor killings have been reported from antiquity from all over the world, however the recent past has shown an alarming and disturbing resurgence of this inhuman deed. I present a typical case related to honour killing in the Indian context: a dual homicide of two lovers who were killed in the name of preserving family honor and hanged after death together by the entire village. The pattern of injuries in both cases and crime scene are discussed in detail.

PP-812

Detection of violence against women during pregnancy

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Background: Violence suffered by women during pregnancy and childbirth is a highly relevant area of research in the field of social and medical services and forensic science. Most women have closer and more frequent contact with health services during pregnancy. This period therefore provides a unique opportunity to identify violence against women, implement interventions against this phenomenon and prevent it. Moreover, pregnancy is a period with particular characteristics, since the consequences of violence not only affect women but also the babies they are expecting. The aim of this study was to detect gender-based violence during pregnancy in women who give birth in public hospitals in Andalusia, Spain, using two validated instruments: the Abuse Assessment Screen (AAS) and the Index of Spouse Abuse (ISA).
Method: We developed a cross-sectional study whose population consisted of women who were going to give birth in public hospitals. After calculating the sample size and the type of sampling for each cluster according to the type of hospital, the study population was composed of 750 women who were supposed to give birth in 15 different hospitals. Violence was detected using two questionnaires: the Abuse Assessment Screen and the Index of Spouse Abuse. Data were collected by midwives previously trained for this purpose. Total anonymity and confidentiality were guaranteed throughout the process. The analysis yielded data on the prevalence of violence against women during pregnancy and the prevalence of various types of violence with 95 % confidence intervals.
Results: According to the AAS questionnaire, the prevalence of violence against women during pregnancy was 7.7 %. Among the various types of violence detected by this questionnaire, the most frequent was emotional violence (4.8 %), followed by physical violence (1.6 %) and sexual violence (0.5 %). In contrast, the ISA yielded a prevalence of 21.3 % for general violence against women during pregnancy, 20.9 % for non-physical violence and 3.6 % for physical violence (Table 1).
Conclusion: Gender-based violence during pregnancy is a shameful reality suffered by women. It is necessary to detect it to establish mechanisms for the intervention of medical and forensic teams. The analysis of the questionnaires showed that the ISA detected a higher prevalence of violence against women during pregnancy than the AAS questionnaire, both regarding violence in general and the different types of violence analyzed.

PP-813

Evaluation of Partner Violence Against Women

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Domestic violence is a general definition that includes the whole family members, but often comes to mind with intimate violence against women. World Health Organization described "Violence Against Women," as a health issue. Women's physical, sexual, emotional or economic violence, are dealt with primarily as a health issue and protection of victimized women and elimination of this scourge need legal sanctions. Medical expert opinion is needed in the detection and reporting of physical and mental abuse during the legal sanctions applied. In the study, thirty victimized women cases which were asked for medical expert opinion to 2nd Specialization Board of the Council of Forensic Medicine during legal procedures,between July 2011-March 2012,were included. Informed consent were obtained from all cases. Interviewing with the help of a questionnaire and contribution of socio-demographic characteristics to the violence were aimed to be determined. The majority of the cases were in 26–30 years age group (n=9). 14 of all cases were housewives, and 16 of all have a job and an individual income. When marriage history was questioned, 17 of them got married with the approval of their family; 11 of 17 cases made a prearranged marriage. In 5 of 13 cases, who married without the consent of their parents eloped to be able to get married. Approximately for half of the cases (n=14), violence started in the first month of marriage. In 6 cases, violence began after 10 years. Alcoholism was the main factor underlying the problems shown in 17 cases. 11 cases were reported to receive medical assistance after the violence, while 19 of them were reported not to receive medical help. This study was designed as a pilot study with a limited number of people to evaluate multi-dimensional factors that give rise to violence and presented to determine deficiencies for further extensive studies.

PP-814

Murder by the partner

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Background: EURES-ANSA (2007) data reveal that in Italy murder by the partner accounts for 16.7 % of all murders in which the perpetrator is known, and 52.8 % of murders within the family. The victim of murder in the family is mostly the woman (70 %), and almost always the woman when the perpetrator is the partner or ex-partner (94 % of cases). A similar situation applies in the USA, where the percentage of women victims of murder by the partner or ex-partner is again 70 %, although in the USA the woman is not always the victim but can also be the perpetrator (in about 1/3 of cases). Even after a separation, agressive behavior by the ex-partner continues to occur in the form of stalking. The ISTAT (2007) data underline that in about 50 % of cases harassment of the woman is perpatrated by her ex-partner after the end of an intimate relationship. These data are confirmed by the USA data.
Method: In Italy, in such cases of murder in the family a forensic psychiatry expert investigation of the perpetrator is often commissioned, assuming that the crime could be induced by a mental disorder. In Italy, the Penal Code specifies that a judgment of abolished or diminished

responsibility due to mental disease can be made only if a correlation between the crime and the disease can be demonstrated and if the disease was in course at the time of the crime.

Results: In our experience the mental disease alone is not sufficient to explain the phenomenon of violent attacks on women. In all the cases we have investigated it was the man who murdered his woman partner, and in no case was the mental condition so severe as to exclude or diminish the perpetrator's responsibility for the crime. The EURES-ANSA data confirm this point, since in the population investigated only in about 11 % of murders by the partner was mental disease the key factor in bringing about the crime.

Conclusions: We believe that the forensic psychiatric assessment must not be focused only on ascertaining the presence of mental disease but must also reconstruct the entire history of the relationship between the couple, as well as the social and cultural factors constituting the setting within which the crime was committed. All these factors can often clarify episodes of violence, and this may even tend to reduce to some extent the murderer's degree of penal responsibility.

PP-815

Intimate partner violence against women: a medico-legal and criminal approach

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Background: Violence against women is a problem of big dimensions and severe consequences. The purpose of this work was to analyse the characteristics of intimate partner violence from the medico-legal and criminal perspectives.

Method: Files classified as gender violence from the prosecutor office of Santiago de Compostela (Galicia, NW Spain) were examined and analysed. The clinical histories of victims were also studied. A descriptive statistical analysis, testing the possible association of variables was carried out with the statistical package SPSS.

Results: Demographic and clinical data: Most victims were young adult women, of Spanish origin, married or divorced, with children and living in an urban population, belonging to a middle-low socioeconomic level. The aggressor was frequently a Spanish young adult with a component of violent personality and some type of substance addiction. Assaults usually occurred at night, during the weekends, and mainly took place at home. Many victims had chronic pain and sexual/reproductive problems such as menstrual disfunction, sexually transmited diseases and abortions. Depression was the most prevalent mental disorder.

Medico-legal data: Proven facts and forensic reports showed that women suffered psychological and physical aggressions. Most injuries were superficial, needing scarce days for recovery and no hospitalization, corresponding to minor assaults.

Legal and criminal data: This study showed the hegemonic role that victims play in the legal process and the remarkable higher incidence of minor offences. Even though the majority of the examined cases ended in conviction, the number of those with a not guilty verdict was considerable. Victim right to not testify seemed to be a relevant factor in order to explain the rationale of these verdicts. Occasional maltreatment was the main crime in which the gender-based violence translated. We must emphasize the remarkable incidence that the mitigating circumstance of substance addiction had in the files analyzed.

Conclusion: Abused women presented in different health care settings with diverse physical and mental health problems and demographic characteristics, although Spanish women, of middle–low socioeconomic level, were the most prevalent. Victims suffered from physical and psychological abuse, but most of the assaults were minor. The victim played a fundamental role both in the initiation and ending of criminal proceedings, which in most cases were considered as occasional maltreatment.

PP-816

The analysis of violence against the nurses who in employee status in Mugla State Hospital, Turkey

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Abstract: Workplace violence in the country, especially in the health system remains obscure. The search of the relationship using an intersectional, analytical survey between the working conditions and violence exposure of the nurses who work in Muğla State Hospital was aimed in the study. Of the 310, 268 nurses participated, yielding a response rate of 86.5 %. The data was examined by using Fisher's Exact Test, Pearson Chi-Square Test and Logistic Regression. In result, it was found that 85.8 % of the nurses were exposed to violence, with 70.4 % of the violence coming from the relatives of patients. 77.2 % of the nurses were exposed to verbal abuse while 71.4 % were physically assaulted. Unfortunately, 98.4 % of the abused did not report the physical abuse. 91.3 % of the nurses always felt violence anxiety, while 92.9 % of them thought that their instutions do not make an effort for the security systems. According to logistic regression analysis, 21 years and over working time, night work and felt encounter violence in the workplace, significantly increases the frequency of meeting with violence of nurses. In conclusion we found that the nurses were exposed to multiple forms of violence. This was correlated with their monthly average income, marrital status, parental status, work status, night shifts, overtime, rotational shifts, total and daily work hours.

PP-817

Fatal intimate partner violence against women in Portugal

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Background: Intimate partner violence (IPV) is an important cause of women´s health and socio-familial problems, being the most extreme one the victim's killing. The main objective of this study was to contribute to a better understanding on fatal IPV in Portugal, concerning a forensic medicine perspective.

Method: A national retrospective study was performed based on reports of forensic autopsies of alleged homicide cases of women over 15 years-old, performed at the National Institute of Legal Medicine of Portugal, between 2005 and 2007. IPV-related cases (perpetrated by current or former men-intimate partners) were selected after reviewing the correspondingly judicial decisions and analyzed according to the victim and perpetrator's profiles, characteristics of the victim-perpetrator intimate relationship, characteristics of the circumstances

surrounding the death, autopsy findings and legal case progression and judicial outcomes.

Results: The main findings of this study were: (1) at least 62 women were killed by current or former men-intimate partners, corresponding to an IPV-related female mortality rate of 0.44 per 100.000 women over 15 years-old; (2) fatal IPV constitutes 13 % of forensic autopsies and 61 % of women's homicide cases; (3) the typical Portuguese victim is a young adult woman, employed, killed by a current husband in a long-term relationship, usually with offspring in common and often with a history of previous IPV (79 %); (4) the typical Portuguese perpetrator is a man, older than the victim, employed, usually with a history of substances abuse and psychiatric problems, owning a firearm and without criminal records; (5) most fatal events took place in the summer, during the weekend and in homes shared by the victim and perpetrator; (6) half of the perpetrators attempted or committed suicide afterwards; (7) most women were killed by gunshot trauma (45 %), especially in the thorax (49 %), with multiple fatal injuries (55 %) and 57 % also presented non-fatal IPV-related injuries (73 % defense wounds), particularly due to blunt trauma (63 %); (8) from the known cases, 75 % of the victims have presented previous denouncements of IPV; (9) perpetrators, who did not die, were prosecuted and convicted of murder in almost all cases.

Conclusion: The prevalence of fatal-IPV among women´s homicides is very high. Most of the results are similar to other series. The detection of prior IPV and the risk evaluation is fundamental to decrease fatal outcomes. This work emphasizes the need to deepen the research on this issue, with the final aim of preventing both fatal and non-fatal IPV-related cases.

PP-818

The Study Of Underlying Factors In Violence Against Women In Yazd Legal Medicine Organization In First Six Months 2011

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Introduction: Family is the smallest social unit, but the most effective unit is supportive and education. Constructive role in creating moral and emotional ties of family members is undeniable. This condition is possible with a calm and safe environment, away from violence for all people. The adverse effect of violence against women is compromise and inherent human dignity of women.

Methods: Of approximately 700 women, 532 women participated in this study, 512 women responded to the questionnaire correct and complete.

Results: 95 % of them had blunt trauma such as redness, bruising and sever bruising and approximately 61.5 % of them had incisional injury such as scratches, lacerations and burns, 24 % had cuts in different parts of the body and 14.5 % had bone fractures in various parts of the body (in addition to blunt trauma).

There are significant relationships between violence against women and factors such as their education level, employment of women and men's occupation, age of women and men, men's addiction, alcohol consumption.

Conclusion: In our society it is necessary to strengthen the family such as two strong arm and Traditional thoughts (work and education to men and housework for women) will be excluded.

Based on the current culture education and social activities of women, social and economic dimension is essential. Corrected attitude to drugs and alcohol abuse, awareness to families for prevent of the factors in violence against woman is necessary.

PP-819

Non-fatal intimate partner violence against women in the north of Portugal: a prospective forensic approach

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Intimate partner violence (IPV) is a very complex and serious health, social and legal problem, involving many variables. These are related not only with physical damage but also with other cultural and emotional aspects that justify the submission, resignation and silence of the victim towards this kind of victimization. Thus, it is fundamental to improve our knowledge of these aspects, namely in Portugal, where most of the studies are retrospective.

A prospective study, based on a randomized sample of alleged female victims of IPV, was conducted during 2011 at the North Branch of the National Institute of Legal Medicine of Portugal (INML) - n=300. It was based on the results of the interviews held by a social worker and the physical evaluation carried out by a forensic doctor. Data was always collected with the victim's consent. The study focused on characterizing the victim, the alleged offender and any children, the previous abuse, and the specific episode of violence which lead the victim to ultimately present their claim.

Selected cases represent 23.6 % of all the cases observed during 2011.The victim's mean age was 39.9 years, whereas the alleged offender's was 42.3 years. Victims reported a history of: (1) abuse during childhood or adolescence (19.3 %); (2) economic dependence upon the offender (14.3 %); (3) substance abuse by the offender (69.3 %); (4) repeated abuses by the same partner (98.3 %); (5) abuse lasting more than 5 years (52.7 %); (6) child exposure to IPV (42.6 %); (7) previous psychiatric disorders (45.7 %); (8) physical abuse (100 %) - punching 42.3 % - and sexual abuse (11 %). In 29 % of the cases the victim required health care as a result of the abuse. In most cases the resulting injuries were ecchymosis (51.0 %) and abrasions (23.3 %); in 2.7 % resulted physical permanent consequences.

This study allowed for the characterization of IPV in the North of Portugal which is important to orientate the implementation of prevention strategies and to improve the capacity and awareness of the professionals who work with these victims, regarding the detection of the cases and subsequent reports. The forensic medical evaluation is more complex in these cases than in other "common" assaults due to their specific context and to the vulnerability and dependence (mainly emotional) of the victim upon the offender; this fact hampers the possibility of collecting empirical evidence thus requiring a special level of skill and time by the forensic doctor.

PP-820

Interpartner violence against women. Cognitive and cultural factors

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Background: Interparner violence (IPV) is a serious public health issue worldwide with consequences to physical, mental and social welfare of women, and to their families and society. Despite the positive evolution in the understanding of this phenomenon occurred in the last few years, there are still cognitive and cultural factors, consisting in myths and stereotypes about women's role in society, family and inside the intimate relationship, that have strong influence in its maintenance. Indeed, they often lead them to stay in the abusive relationship and contribute highly to IPV staying unreported.

The main goal of this study is to contribute to a better understanding of women victims of IPV by characterizing both cognitive and cultural factors that influence their perception and reaction to this violence, considering their evolution in the latest 5 years, in Portugal.
Method: This study took place in the North Branch of the National Institute of Legal Medicine, Portugal, in 2005 and 2010, using, respectively, a sample of 126 and 161 women, victims of IPV, aged 18 or older, using a questionnaire oriented interview technique. Data obtained in both studies was compared to understand which were the differences observed in each of the studied dimensions, across the 5 years span.
Results: Comparing 2010 to 2005 data: (a) female victims are still young (50 % less than 39 years old) but are more educated and employed, and, more often, don't cohabit with the aggressor; (b) victims still don't always interpret violence as such but much less consider violent behavior as normal (1 % in 2010, 14 % in 2005); (c) victims stay in the abusive relationship because they believe the aggressor will change (38 %) or fear losing their partners (23.3 %) - which is less than the 41 % and 38 % of 2005 - having also less fears and shame to admit victimization; (d) victims report earlier; (e) police had a significant increase as chosen entity to report (94 % in 2010; 72 % in 2005); (f) victims feel more confident and assured when reporting (68 %, in 2010; 32.5 % in 2005).
Conclusions: These results indicate that information and prevention programs, in Portugal, have had positive outcomes in women's perception of violence and in their change of attitude towards IPV but there is still work to be done for the awareness about this problem.

PP-821

Predicting the risk in cases of intimate partner violence

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The risk assessment aims to provide another element to the judicial authority to allow a decision on the relevance and scope of measures to protect the victims of partner violence. Experts recommend the use of clinical scales for predicting serious risk in the relationship. Risk assessment can be made urgently (within 72 h) or programmatically (for review of security measures already taken). Recently in Spain is being used for risk assessment "Severe Intimate Partner Violence Risk Prediction Scale (EPV-R)" that includes personal data of the victim or aggressor, status of relationship in the past 6 months, type of violence in the past 6 months, profile of the aggressor and the victim's vulnerability. The risk assessment urgent is done at a particular time, so the risk may vary according to the circumstances of the offender and the victim's vulnerability. The aim of this study is evaluate the risk in cases of intimate partner violence. The sample for this study consisted of 50 female who had complained to her partner. Mean age was 34.9 years (range: 18–80), 20.4 % with secondary studies and 4.1 % university. Mean years of relationship with your partner is 10.6 (range: 1–50), the mean number of complaints is 1.1 (range: 1–5). Lives together with the aggressor 69.4 %. 30 % of women report physical violence. The victims were classified as high-risk (75.5 %), moderate-risk (14.3 %) and low-risk (10.2 %), depending on the cutoff scores. This easy-to-use tool appears to be suitable to the requirements of criminal justice professionals and is intended for use in safety planning.

PP-822

Evaluation of femicides committed between 1996–2005 in Antalya – A Single Center Research

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Background: Although criminal death incidence of women vary between developed, and developing countries, it has become a common public problem in almost every country.
Method: We evaluated 141 cases of female homicides with an interval of 10 years between January 1996 and May 2005,retrospectively. Data concerning age, profession, educational status, civil status, cause of death, ways of killing, location and number of lesions and profiles of the victims were retrieved from autopsy reports. Court files of 79 cases out of 141 could be accessed. Expetrators of 3 homicides could not be evaluated, because they were acquitted due to lack of evidence or their disappearance. The remaining 76 executers of female murders were evaluated. A total of 96 perpetrators of 76 cases of female murders were analyzed. From the data obtained about gender, age, profession, educational and marital status, criminal records, perpetrator's degree of intimacy to the victim, crime site, the probability of spouse crime and motives for committing crime related to the suspect profiles of the expetrators were delineated. Data retrieved were statistically evaluated using chi-square test.
Results: During this period nearly 29.4 % of the all female autopsies were femicide cases. Ages of the murdered women ranged between 2 and 88 years (median; 34.9 years) Most of these cases aged 21–35 years. 43 % of femicides were executed using firearms. Only 2 women were of foreign nationality. Spouse murders were the predominant finding in our investigation which were responsible for most (33 %) of the female murders, and 48.1 % of the spouse murders occurred in the home of the victim.
Conclusion: In our country, these crimes have been committed mostly using firearms like the cases in many other countries. As owning a firearm is a risk factor for femicide, just like for all criminal acts, we think restricting the firearms can reduce femicides.

We think that spouse murders, which constitute an important portion of femicides, are committed based on concepts of chastity, and fear of being abandoned are related to the personal immaturity, rather than developmental status of a nation. Therefore, raising the educational level of the individuals about concepts of family, marriage, human, and especially women's rights will be very useful.

Spouse murders are usually witnessed during the process of divorce. Establishment of institutions which will ensure the security of women during this period, is of paramount importance.

PP-823

Evaluation of the Female Suicidal Deaths Between 2005–2011 in Van City of Turkey

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Background: Suicide is the act of intentionally causing one's own death. It is an important public health issue with psychological, economical, cultural and social aspects. The aim of this study was to analyze the female suicidal deaths in Van city of Turkey.

Methods: Autopsy reports of the Van Attorney Generalship between 2005 and 2011 were investigated retrospectively. The female suicidal deaths were evaluated according to the age, gender, year in which the incident occurred, place of the incident, suicide methods, and the cause of the death. The statistical analysis was performed by using SPSS 16.0 Packet Program.

Results: In our study, the autopsy was performed in 66 female suicidal cases. The age distribution was as follows: 9 cases (13,6 %) were in 15 and under years old group whereas 30 cases (45,5 %) were in 16–20; 9 cases (13,6 %) were in 21–25; 7 cases (10,7 %) were in 26–30; 6 cases (9,1 %) were in 31–35; 1 case (1,5 %) was in 36–40; 2 cases (3,0 %) were in 41–45; 1 case (1,5 %) was in 46–50; and 1 case (1,5 %) was in over-50 years old age groups. It was remarkable that 9 of the cases were below the age of 15. Suicide methods were as follows: hanging in 44 cases (66,7 %), firearm injury in 18 cases (27,3 %), insecticide intoxication in 3 cases (4,5 %), and jumping from height in 1 case (1,5 %). The scene of the incident was a house in 39 cases (59,1 %).

Conclusion: According to the literature, the complete suicide is more frequent in males compared to the females. However, different results can be obtained from the various regions. Cultural suppression of females and prevention of their socialization in enclave societies are the risk factors for female suicides. Therefore, the female suicide attempts and recurring attempts should be prevented with psychiatric scanning, follow-ups and therapy for high-risk individuals and also by education. Besides, differential attitude of the prosecutor and the forensic medicine specialist between suicide and murder is also very important since in eastern parts of Turkey it's frequently heard that honour murders can be being hushed up in fake 'suicide' crime scenes.

PP-824

The Impact of Intimate Partner Violence on Women's Mental Health: Depression

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Background: This study aims to investigate the type, prevalence and causes of intimate partner violence (IPV) among women receiving sheltering services in Izmir. Furthermore, the study investigates the relationship between violence and depression in women subjected to intimate partner violence.

Method: Participants (n=46) were women who had been sheltered in various municipality women's shelters in İzmir. Data was collected by face to face interviewing technique using Hamilton Depression Scale and the questionnaire by two psychologists and one sociologist. Data analysis was performed using SPSS 18 package program. Results were assessed in $p < 0.05$ significance level.

Results: The fourty six participants aged between 21 and 57 years (=34.23, σ=10.12). The percentage of women who were exposed to IPV is 78.3 % (n=36). Demographic characteristics of women were as follows: 13.9 % were illiterate and 50 % were primary school graduates. %72.3 does not have a job. 36 men (women's intimate partner) aged between 22 and 86 ($\bar{x}$=40,80, σ=13,45). 72,2 % were primary school graduates, 19,4 % does not have a job. 26,5 % have no monthly income, 41.2 % have monthly income under 800TL.

According to the type of violence experienced, women could be categorized as follows: verbal and physical violence (8.8 %); physical and economic violence (2.9 %); physical and sexual violence (5.9 %); verbal, physical and economic violence (26.5 %); verbal, physical and sexual violence (14.7 %), physical,economic and sexual violence (2.9 %); and all forms of violence such as verbal, physical, economic and sexual (38.2 %).

The study also revealed a significant finding that 57,6 % (n=19) of these women reported that they had been exposed to violence during pregnancy. There was a significant difference between violence and depression during pregnancy (x^2: p=0.024). According to women, reasons for violence: 44.4 % influence of others, 36.1 % alcohol and substance use, 36.1 % no reason, 33.3 % to refusing sexual intercourse, 8.3 % modelling his father and 13.9 % jealousy.

Results of Hamilton Depression Scale indicated that 5.7 % of women had severe depression (29 points and above), 37.1 % moderate (16-28p), 40 % mild (8-15p), 17.1 % no depression (0-7p).

Conclusions: Violence against women is a primary health problem in Turkey and around the world. The frequency of depression rates among women who were exposed to IPV is high therefore the issue needs to be highlighted.

PP-825

The Hazardous Consequences of Substance Use and Criminality: Intimate Partner Violence

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Background: Violence is a serious social and economic issue, usually with hazardous consequences for women, in Turkey. The rates of women experiencing domestic violence are extremely high. The research revealed that there is a remarkable relationship between substance use and criminal offense of intimate partners and violence against women.

Method: Participants (n=46) were women who received sheltering services from various municipality women's shelters in İzmir. Data was collected by face to face interviewing technique using a questionnaire. 45 women exposed to domestic violence were evaluated. Analysis was performed using SPSS 18.

Results: Participants (45 women) aged between 21 and 56. 80 % (n=36) of the participants experienced intimate partner violence and 20 % (n=9) domestic violence. 50 % of the women experienced both intimate partner violence and domestic violence from their own family while 22.2 % were exposed to intimate partner violence and domestic violence from their husband's family.

75 % of the intimate partners had some kind of forensic problem and 47.2 % of the partners had been jailed for 2 to 72 months.

27 men aged between 22–65 had a forensic problem, 20 men were primary school graduates (74 %), 7 men do not work in any job (26.9 %).

Partners who had forensic problems demonstrated verbal (85.2 %), physical (92.6 %), economic (66.7 %), or sexual (51.9 %) violence against their wives. The study revealed that there the percentage of partners who committed a combination of all types of violence mentioned above was considerably high (40 %). 17 out of 27 men with forensic history demonstrated violence against their wives during pregnancy (68 %).

According to women's reports, prevalence of substance use by intimate partners is as follows: 23 men out of 29 (79.3 %) use alcohol; 15 men out of 16 (93.8 %) use marijuana, 7 men out of 8 (87.5 %) use ecstasy at least once in a lifetime and had forensic problem.

Intimate partners with prison history tried alcohol (81.3 %), marijuana (56.3 %), or ecstasy (37.5 %) in lifetime. They also used other substances such as heroin, volatile, or cocaine.

Conclusions: A close relationship and interaction is observed between substance use, criminality, and violence. The study revealed that intimate partners intoxicated by some kind of substance most frequently resort to violence against women. Therefore, the interrelationship of substance use, criminality and intimate partner violence should be treated together and studies devoted to hazardous consequences, such as violence, of substance abuse and criminality should be given due attention.

PP-826

Importance of Victim's Awareness in Sexual Assault against a Spouse

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Introduction: Being a violent sexual act, sexual crimes are punished by laws of the related countries according to the cases without or with invalid consent of the victims. Detection of the semen is important both for proving the alleged assault incident and determination of the identity of the abuser. In this study, we present a case with medicolegal aspects of a female who had been forced to anal intercourse by her husband without her consent. On her first litigation, real evidence could not be reached and she had presented again with the same complaint 3 days later.

Case: A 31-year-old female patient admitted to the department of forensic medicine, claiming that she had sexually assaulted by her husband. The patient stated that she had been forced to anal intercourse once or twice a month by him for 15 years. She reported severe pain and occasionally suffered anal bleeding following the intercourse. She stated that lubricant was used during the intercourse. On the physical examination, evidence was found indicating sexual assault. No sperm was detected in the collected anal swab samples. The victim was informed that she should apply immediately after the incident.

On the second examination; three days later the patient again applied with the claim of sexual assault by her husband in the same way. The patient stated that he had forced her to anal intercourse. On the examination, fresh lacerations with bleeding ground were detected at the level of 11 and 12 o'clock quadrant. No scars, ecchymosis and erasing of the mucosal pilus were observed. Anal sphincter tonus was normal. There was no evidence of chronic anal penetration. A number of sperm were reported in the anal swab samples collected from the patient.

Conclusion: Collecting of the real evidence after a sexual assault is of high importance in forensic investigations. No real evidence was found on the first examination of our patient. However, sperm was observed in anal swabs obtained in the second examination. Awareness of the victim is crucial for collecting of the real evidence following a sexual assault. In addition; police, social service specialist and the other related persons to get informed about management of the cases in the pre-examination period will be useful for collecting of the real evidence.

WOUNDS

PP-827

Bite of wild DONKEY in an Occupacional Accident occurred in Mato Grosso Pantanal - BRAZIL

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Introduction: Bites by donkeys can be highly destructive, causing laceration and amputation in the victim.

Case: E.V.L.P., male, 26 years-old. In February 2011, the victim was carrying cattle on an unpaved road between the towns of the Comodoro and Jaurú (MT-Brazil). During rest stops, he and his brother would tame some of the wild donkeys who were transported with the cattle. In one of these intervals, he tried to secure a rope connected to the brake animal's mouth and he was bitten on his left hand. As a defense mechanism, he was quickly pulled his hand and his thumb was blown off. Feeling intense pain, the victim and her brother made a dressing with a piece of shirt and sought medical help, taking care to get the amputated toe. The patient was observed more than ten hours after the accident, he showed the thumb amputated with the base crushed with fragments of muscle tissue and tendons, exposure of the proximal phalanx, with comminuted fracture, and cyanosis. The extensive degree of destruction, ruled out the possibility of implant. The muscular structures, vascular and nerve were exposed and lacerated. There were heavy bleeding and contamination by fragments of grass and clay. The radiographic study revealed fracture at the middle 1 / 3 of the 1st-proximal phalanx of the left thumb. The anesthetic block did not work, and general anesthesia was performed. After copious washing with soap and Povidine, in the hand and forearm a pneumatic tourniquet was applied. We performed excision of devitalized tissue and identification of anatomical structures (vessels, nerves, tendons, ligaments and skin). We were forced to higher bone section. The skin flap pedicle has worked biological dressing. We conduct internal sutures with Vicryl 3–0 to cover the injury. Without the tourniquet, hemostasis accomplished. Penrose drains placed and made the cover and close wounds. We made small incisions, thereby targeting the spontaneous, facilitating adherence of the graft during healing (photos). At the end we put compressive occlusive dressing.

Postoperative: prescribing preventive (routine in our hospital): antibiotic (Cephalothin+Gentamicin); anti-inflammatory; analgesics; gastroprotective medication; anti-tetanus serum+specific instructions. After a few days, the patient was discharged.

PP-828

Attacks on Humans - Injuries Tapir (Tapirus Terrestris): Report of One Case in the Pantanal Region of Mato Grosso – Brazil

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Introduction: Tapirs are large mammals that present shy behavior and live in areas of forests and near rivers, which often invade plantations when approaching places inhabited by humans. Accidents are rare but can happen when the animal is attacked or cornered.
Case: AS, male, 65 years-old, victim of unprovoked attack caused by a tapir (Tapirus terrestris) on August 13, 2010. The patient was treated in the Department of Trauma and Emergency Hospital Regional de Cáceres - MT and said that "around 13:00 pm. I was working in a plantation at Santa Ediviges farm in Cáceres-MT, when passing the sickle at the base of a clump of grass, was attacked by an adult tapir who left the bush and bit his right wrist. The patient started scream for help, and the animal dropped his arm, chased by dogs on the farm, being rescued and taken to the Hospital by his own boss. DESCRIPTION OF INJURIES: the victim was admitted on August 13, 2010 at 17:30 pm and is observed by an orthopedist and after x-ray was taken immediately to Surgical Center and operated in an emergency. Radiographs (see photo) showed comminuted fracture of the distal 1 / 3 of the right forearm, associated with bone exposure. At external examination there were multiple soft tissue injuries (lacerations of skin, subcutaneous tissue and muscles). FINAL PRE-SURGICAL DIAGNOSIS: FRACTURE comminuted exposed (Grade III) of the distal third of right forearm, with exposed bone, caused by a tapir´s bite (Medical Records 25449). SURGICAL REPORT: ANESTHESIA: Brachial Plexus Block associated with axillary block. Asepsis, removal of devitalized tissue, hemostasis, alignment and reduction of fractured bone fragments, percutaneous fixation with Steimann wires (steel), sutures by planes, occlusive dressings and splint sleeve type. Hospitalization for antibiotic therapy, administration of anti-tetanus serum and observation of the operated area (due to the high degree of contamination).
Discussion and conclusions: Injuries caused by tapirs are not common. This large ungulate (largest mammal in Brazil) are solitary and shy animals that never attack humans when unprovoked, fleeing into the woods. When cornered, however, can defend themselves with violent bites inflicted by powerful jaws and teeth (see photo). Docile animals in the wild can defend themselves with force and violence and accidents are never reported may become more common.

PP-829

Attack by an alligator occurred in a fisherman in the Pantanal of Mato Grosso state (BRAZIL): Report of a case

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Introduction: Accidental alligators are poorly understood. The few reports point to the fact that most attacks are caused by lack of care when approaching these animals or provocation. This is especially true for species Caiman yacare (Pantanal alligator) and Caiman latirostris (broad nose alligator). However, there are large Amazonian species that can attack humans for predation, such as the black caiman (Melanosuchus niger).
Case: N.P.V., male, 61 years. In November 2011, after cleaning fish, the fisherman was attacked by an Pantanal alligator of about 1.50 m long, which left the weeds beside him and bit his right hand. With heavy bleeding and severe pain, the victim washed the wounds with water and sutured the wounds with sewing thread. Three days after the patient had chills and pain with the hand being very "swollen and hot". He sought medical care at the Regional Hospital of Cáceres. After the stitches are removed, we performed rigorous cleaning with saline. The injuries were blunt-piercing and piercing-cutting and the area presented significant inflammation, with reduced sensory and motor function, but without purulent discharge. An X-ray showed a fracture with a small bone fragment at the head of the 2nd metacarpal law. The patient was treated with 1000 ml glicosaline IV bid; cephalexin 1 g IV 6 / 6 hours; gentamicin 80 mg 8 / 8 hours; tenoxicam 20 mg 12/12 hours; SAT 5000 U IM, IV dipyrone 2 ml 6 / 6 hours and omeprazole 20 mg IV 12/12 hours and daily dressings. Culture for bacteria was not performed due to the difficulty of obtaining pus and the early administration of antibiotics. After five days there was significant regression of the hospital and he was discharged to weekly follow-up and physical therapy. The wounds were healed after 45 days.
Discussion / conclusions: the accident was an unprovoked attack and the reptile probably tried to devour the fish that he was cleaning, with no attempt to human predation. Injuries caused by alligators should be viewed as high risk for the lacerations and punctures caused and by the high potential of secondary bacterial infection.

PP-830

Death by drowning associated with an Attack of Piranhas, with threatening injuries structures the face - Report of a case occurred in Cáceres - MT-Brazil

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Introduction: Piranhas are carnivorous fish of the Characidae family that are popularly blamed for fatal attacks on humans, though the statement did not provide scientific proof, contrary to what is observed in corpses1,2. Most injuries occur in fishermen and in defense of eggs in underwater vegetation in riversides1.
Case: the human body was a male, 25 years old, 1.74 m in height and good physique. The victim and a friend drowned while diving in the evening in the Padre Inácio River. After the bodies were recovered (almost immediately), it was found that a body showed no external injuries, while the victim showed deep lacerations on his face with the destruction of tissue and bone exposure, characteristics of attacks by piranhas, including showing teeth marks typical of fish. The autopsy reports showed the typical lacerations on the face (injuries by pullout) and the presence of foreign bodies in the lungs alveoli, favoring the drowning as the leading cause-of death There are extensive lacerations and teeth marks with avulsion of tissues in the face of the victim and

circular lesions in frontal region with tissue destruction in the submandibular region, affection and section of important branches of the carotid artery. There was also muscle wasting in the temporal region. The face is a preferred site for attack by small carnivorous fish cadavers.

Discussion: piranhas attacks are common in bodies of drowned and occurs after long time of immersion of victim 1, 2. This case, exceptional, probably shows an attack from several fish on a person still alive, stressed with the risk of drowning. Besides contributing decisively to the death, the bites caused extensive and intensive tissue destruction and lesions in high caliber vessels, especially in the submandibular region that can justify the death, without description in the medical literature. We also observed that the other drowned did not have any injury of importance, which reinforces the possibility of an attack on the victim in vivo.

PP-831

Fish attacks the putrefying corpses-victims of drowning> Characteristics of injuries: report of two cases occurring in the Region of the Pantanal of Mato Grosso-Brazil

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Introduction: Many animals act as decomposers of drowned corpses of animals, including humans. How can there be confusion with other causes of death and even attacks on live individuals by some species of fish, it is important to know if there is a characteristic pattern of injuries in corpses devoured by fish. Additionally, it is not unusual to observe small specimens of various species of crabs in internal cavities of bodies submerged (personal communication from authors)1.2. Among the main fish decomposers are the freshwater and marine catfish (families Pimelodidae, Cetopsidae and Ariidae). Piranhas have a very important role in these attacks, perhaps more active than the folkloric attacks in living humans through shoals2.

Objectives: The aim is a research an attack pattern to human bodies by small fish, which will be able to identify the bodies' victim of secondary attacks where the cause of death was not the action of the fish.

Methods: We performed postmortem examinations on two bodies of humans who had proven attack action by fish and was dead by causes other than the attack. Morphological aspects were highlighted in the common search for a pattern of action of fish.

Results: The main cause of death was mechanical asphyxia slowly in liquid medium (freshwater). In one case, the victim was tortured and after his death, he was tied to a weight and thrown into the Paraguay River. After a few days, the water level lowered and the body part was exposed when it was removed by firefighters. The common aspects to all bodies were the tissue destruction of the face and cartilaginous areas of the head.

Discussion: The victims died of causes other than the attack of the fish. The cheeks and the rest of the face are the points of initial preference of the attacks of small carnivorous fish and crustaceans decomposers, as well as areas of cartilage. We could still find these animals in the cavities of corpses. Lesions with these characteristics should alert the forensic medicine expert to the possibility of attacks post-mortem by fish.

PP-832

Injuries caused by Predators Large Carnivores species Panthera onca - Report of Two Cases occurring in the Pantanal Region of Mato Grosso – Brazil

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Introduction: The history of mankind tells accidental and intentional conflicts betweenbig cats and humans. These clashes have increased in recent times due to the invasion by man of the natural habitat of these animals. In Tanzânia, South East Africa, lions (Panthera leo) has produced casualties estimated in the thousands. The same is happening in Índia and Bangladesh. In the Americas stand out two cat species the jaguar (Panthera onca) and puma (Puma concolor). We report two cases of attacks of P. onca to humans occurred in Central Brazil, in areas of transition between three major South American ecosystems - the Cerrado, the Pantanal of Mato Grosso and the Amazon. You will see theofficial reports of clashes with the jaguar. REPORT OF CASES: we reported two cases of victims attacked by Jaguars in situations provoked and predatory. One victim was saved from another attack and died within moments.

Discussion: mechanisms of attack and the lesions found in several victims are discussed.

Conclusions: the attacks demonstrate a real risk of accidents of Jaguars in certain regions of South America.

PP-833

Epidemiologic study of murders caused by sharp force in Tehran city from July 2010 until the end of June 2011

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Background: The stabbing especially in countries such as Iran and some European countries in which they are forbidden to carry firearms, is the most common method used in cases of homicides. This study was carried out to determine epidemiology of murders caused by sharp force in Tehran city from July 2010 until the end of June 2011.

Methods: This study was a prospective cross-sectional study. All the victims of homicides caused by sharp force injury from June 2010 till the end of June 2011 in Tehran city included to the study by census method. Data on autopsy and body examination findings, interviews with victims' family, criminal file and hospital records, recorded in the questionnaire.

Putrid cadavers and mutilated corpses and unidentified bodies due to lack of access to information were excluded from the study.

In data analysis, the frequency and standard deviation were calculated and t-test and Chi-square test was used for data analysis.

Results: 166 murders were caused by sharp force. 137 cases were male (82.5 %), 86 cases (52.4 %) married, and 112 cases (72.7 %) were employed. The mean victim's age was 33.06±14.11 years (range 4–87 years). The mean of number of wounds on the victim's body was 6.6±2.9 (range 2–72)

Most murder's motivation in 65 cases (39.6 %) was dispute and then 33 cases (20.1 %) had family issues.

Defense wounds were seen in 108 cases (65.9 %). Most injuries were in the trunk area, 119 cases (71.7 %). The majority of victims have 1–9 wounds on the body 94 cases (65.6 %). The cause of death in 102 cases (61.4 %) was injury of a critical element.

There was a significant relationship between victims sex and neck lesions ($p=0.001$).

There was not any significant relationship between site of injury and the relationship between the victim and killers, the number of wounds and sex of victims, the number of wounds and level of education in victims there and number of wounds and relationship between victims and killers ($p>0.05$).

Mean and SD of wounds in female victims (7.55 ± 14.11) was higher than males ones (3.80 ± 3.95) ($p=0.009$).

Conclusion: Increased use of knives and other sharp tools in homicides is considered a threat to public health and more legal limitations for use of these devices and their transportation seems to be necessary.

PP-834

Suicide by a rendered useless revolver. A case report

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Background: The rendering useless firearms methods have as its mean goal to prevent the projectile to go out from the barrel, by manipulating the triggering mechanisms or by preventing the propeling action of gases after powder deflagration. The Spanish Firearm Code, approved by Royal Decree 137/93 on january 29th, establish the methods to fulfill an accurate firearm disabling.

Firearm wounds in contact and close ranges have always signs produced by the action of the projectile and those caused by powder deflagration, which sometimes are difficult to interpret.

Method: It is presented a suicide case using a 0.38 caliber revolver, with two holes drilled in its barrel, perpendicular to its long axis. The victim presented an entrance wound in his right temporal region, with an exit on the opposite side, with characteristics of a hard contact gunshot wound, without the action of gas and smoke

Results: The importance of the entrance wound issued lies upon a mixture of features of a contact range shot, as it is the presence of muzzle imprintment, partially burned edges and a slight presence of soot over the external rim, confirming the presence of gunshot residues in the microscopical analysis. The absence of greater damaged caused by the action of gas, as larger amount of gunshot residues, no under-skin pocket identifiable or cranial fractures, is only understandable by having the gas out from the barrel through the holes drilled on it for disabling the revolver.

Conclusions: A rendered useless firearm might still have firing capability, so it is necessary to know that possibility in order to avoid mistakes in wound interpretation, as the mentioned above, with characteristics of a close range wound, without the action of gas, soot and smoke.

PP-835

Wound Ageing through Evaluation of Transforming Growth Factors alpha and beta1 Expressions in Human Skin

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Wound age provides valuable information for the reconstruction of crime scenes and determination of the cause of death. As skin covers the outersurface of the body, it is the most vulnerable part, and dermal wound age is a critical issue in routine forensic autopsies. The aim of this study was to determine the wound age by the use of immunohistochemical study of transforming growth factors (TFG-α and TGF-β1) on human skin wounds. Samples were collected from human skin wounds after operative incisions (from a few minutes to 6 weeks) and investigated using immunohistochemistry. TGF-α was started to increase after a wound age of approximately 10 min. The maximum level was between 30-60 min then decreased significantly. TGF-β1 was also markedly increased within 60 min and remained detectable in elevated levels in older wounds (6 weeks). Thus, it appears that TGF-α and TGF-β1 can efficiently contribute to the estimation of wound age based on the evaluation of their expressions. In particular, this applies to TGF-β1 because it remains in high level for long time post injury.

PP-836

Chop wounds in the neck - suicide? A case report

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Suicide is the most common cause of death in adults between 20 and 49 years old. The most recent data (2009) show, with a frequency of tree suicides a day, a high suicide rate in Flanders, the Dutch speaking part of Belgium. This is 1,5 times above the European average.

This case study presents a bizarre suicide of a 32-year old man. The victim, with a psychiatric co-morbidity, was found with a extensive chop injury in the occipital region and neck. Chopping in the back of the neck with a cleaver resembling a self decapitation attempt, is a very unusual suicide method and only a few cases have been reported in the forensic literature. Therefore, this case was initially treated as a possible homicide.

The victim was found in a pool of blood on the floor of the living room, with a crescent shaped chopper at his side. The apartment was locked-down and no evidence of recent intrusion was found. Except for the traces in the living room, there were no other blood traces in the other rooms of the apartment. Autopsy findings showed a large complex chop wound (16 x 8 cm) with parallel superficial extensions and/or hesitation lesions from behind the left ear, transversely descending across the neck to the right ear, with underlying bone fragments of the cervical vertebral column. Underneath this wound a subdural cerebellar hemorrhage and left temporal subarachnoid bleeding was found. All organs had an anemic appearance. Post mortem imaging (CT-scan) showed the presence of a vital air embolism. DNA analysis of the cleaver revealed only DNA-fingerprints of the victim.

Based on the police investigation, the psychiatric history of the victim, the distribution of the bloodstains, the wound pattern and the DNA-analysis, this case, initially considered as an homicide, could eventually be classified as a suicide by self inflicted chopper slashes resembling a self decapitation attempt. The cause of death was exsanguination and cerebral air embolism.

PP-837

The analysis of CD14 protein expression during wound healing on mouse skin

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Introduction: The determination of wound age is indispensable in forensic practice. At present, Prussian blue staining is usually used to establish wound age. However, positive staining of Prussian blue was obtained only from day 7 or so, and there are no helpful markers to determine before day 7 after wounding at all. Therefore, it is important to search new markers in the initial state of the wound healing process. We previously reported that CD14 mRNA expression peaked from 12 hour to day 1 after injury on mouse skin. However, mRNA is so fragile, it is difficult to be used as a marker for the estimation of wound age. In this study, we investigated the expression of CD14 protein, which was considered to be more stable than mRNA to use as a new marker to determine wound age with immune-histochemical method.
Materials and method: Pathogen free 6-week-old male BALB/c mice were anesthetized by an intra-peritoneal injection of pentobarbital. Six full-thickness excisional wounds were created on the dorsum of mice using a 4 mm biopsy punch. The wounds passed from day 1 to day 9 were excised with surrounding tissues. Total proteins were extracted from these tissues, and relatively determined by Western blot to evaluate CD14. GAPDH was used as the internal reference protein. The other skin tissue sections were embedded in paraffin, and stained with immune-histochemical staining of CD14 after making thin sections.
Result and discussion: The Western blot analysis revealed the expression of CD14 protein peaked from day 3 to day 5 during wound healing. We could immune-histologically detect the localization of CD14 protein. And the positive strong signal could be observed at only day 3, but the weak of expression showed at day 5. These results indicated that the CD14 protein might be a useful marker for determination early stage of wound age for forensic practice.

PP-838

An Unusual Case of Penetrating Intracranial Injury Due to Scissors

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Background: Craniocerebral penetrating non-missile injuries caused by metallic foreign bodies are uncommon among the civilian population. These injuries have been mostly due to industrial accidents in industry or criminal activities. Although intracranial cavity enclosed by the cranium which is consisting of rough bony structure and this type of injuries are very rare, penetrating non-missile injuries caused by metallic foreign bodies can be seen like the other body cavities.
Method: We present a case of craniocerebral trauma due to scissors that penetrated intracranial cavity without dural injury and it is discussed with a review of literature.
Results: A previously healthy 10 year-old male applied to hospital emergency service with his parents. Family members stated that the scissors have been stalled his head accidentally by his sister when they had played together. During physical examination the scissors which located on the posterior of left parietal region of the head was observed. There was no loss of consciousness and oriented with normal vital signs. No other apparent injuries and neurological deficit symptoms were defined. A cranial lateral X-ray and cranial computed tomography (CT) demonstrated a hyper dense foreign body (scissors) penetrating cranial cavity and ended before reaching posterior region of the left parietal lobe. He was admitted to the neurosurgery department after the initial physical, neurological and radiological examination and surgical exploration of the wound was performed under general anesthesia. Dural or cerebral laceration underneath of the injury was not inspected. He was discharged from hospital on 8th day post-surgery.
Conclusion: Penetrating brain injuries caused by non-missile low velocity objects are infrequent and include violence, industrial accidents and accidents during childhood, and suicide attempts. High mortality rates in early injury period among cases similar to our case with intracerebral hemorrhage, brain contusion, and major vascular injuries were reported. Various foreign bodies have been described related to penetrating the cranium such as nails, knives, screwdrivers, sewing needles, scissors, bullets, and shrapnel. To our knowledge, the presented was rare case of intracranial penetrating scissor, which was not removed until, injured reached the hospital. Our goal was to discuss the rare case of penetrating non-missile foreign body cranial injury in medico legal aspect.

PP-839

Physical and Psychological Evaluation of a Person Who Has Multiple Razor Scar Tissues on His Body

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The people diagnosed with anti-social personality disorder may be encountered with a wide range of criminal cases varies from insignificant reactional deed to killing behaviour. The case is a person who has razor scar tissues on approximately 35 % of the body surface and has anti-social personality disorder. Due to incision on his neck caused by a person who has again anti-social personality disorder in the prison that he was being detained, injured party sent to Coroner's Jury 2. and opinion of an expert was demanded to expose the claims of injury. In his physical examination at the hospital after the injury; on the left carotid artery there is an incision including the muscles reaching posterior, left carotid artery amended by an operation, left jugular veins connected, furthermore longudutinal 5 cm 4 units incision on front thoracic wall amended, with the control of hemorrhage it was determined that the patient was discharged from the hospital. The person claimed that the injuries on his neck resulted accidentally during his attemption to intervene a quarrel. The person also declared that other incisions on his body surface caused by himself.

During his psychological evaluation; the characteristics of new and previous physical diagnosis of the person who has anti-social personality disorder, the mechanism of the injury case, the connection between psychological diagnosis and current lesions, the communal and individual measures to be adopted against these kind of people, has been discussed by taking national legislation and literature into consideration.

PP-840

Medico legal aspect of permanent infirmities as a sequel of different types of injuries

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Background: Traumatic injury is recognized as a pandemic disease, and is a serious and growing global health issue.Worldwide, an estimated 5 million people die each year as a consequence of trauma; a figure predicted to increase to 8.4 million by 2020.1

Methods: A retrospective study of all cases of injuries leading to permanent infirmities from 1 January 2007 to 31 December 2008 through manual review of all files of Assiut Medico legal department of Ministry of Justice.
Results: The total cases of injuries with permanent infirmity were 144 cases out of 1978 cases delivered to the department during the examined period (7.28 %). The highest percent was in age groups 21–30 (43.75 %) followed by age group 31–40 years (25.59 %). Male cases represented (92.36 %) while females represented (7.64 %). The highest percent of victims were farmers (68.75 %) followed by manual workers (20.83 %). Most of victims were from rural areas (93.05 %) while victims from urban area were only (6.95 %). Educated victims represented (37.5 %) where illiterate victims represented (62.5 %). Blunt instruments were responsible for (59.72 %) followed by sharp instruments (21.53 %) and firearms (8.75 %). The cause of injury was due to criminal assault (81.94 %), accidental (18.06 %), while there were no suicidal cases end in permanent infirmities. Extremities, upper and lower limb represented (38.19 %) of cases, of which (15.28 %) due to nerve injuries while (22.91 %) were due to bone injuries. Permanent infirmities in head were the second site (32.64 %), followed by eye (10.42 %), abdomen (8.33 %) ear (5.55 %) and nose (4.86 %), while there was no cases of permanent infirmities due to chest injuries.
Conclusion: For each death due to trauma there are more than ten other persons that one seriously injured and some of these are permanently disabled. In Egypt, injuries are the fifth leading cause of death and the leading cause of hospitalization and account for at least one quarter of all in patients.

PP-841

Immunohistochemical study of haemoglobin alpha chain for wounds vitality evaluation

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Forensic pathologists usually evaluate injury vitality through the identification of red blood cells in wounded tissues. Haematoxylin and eosin stain is one of the most commonly used histological stains to do this evaluation. Unfortunally this microscopic technique is not reliable in decomposed bodies because erythrocytes are often lysed and not recognizable.

Although a lot of researches have attempted to use histological and immunohistochemical methods to analyze the vitality of lesions of soft tissues, there is still no conclusive tools to determined whether a wound is ante-mortem or post-mortem in decomposed corpses.

The impossibility to recognize red blood cells in histological samples with haematoxylin and eosin stain does not exclude the possibility to identify their specific components. In particular haemoglobin chain seem to be one of the most resistant elements to putrescence.

We tested the usefulness of the immunohistochemical technique using antibodies against haemoglobin alpha chain on formalin fixed–paraffin embedded tissue sections in some cases of decomposed corpses in the aim to understand which lesions were ante-mortem and which post-mortem.

We try to use it in some murdered cases that gave us some problems about vitality diagnosis of the lesions.

The employment of anti-haemoglobin alpha chain antibody allowed us to validate the results of haematoxylin-eosin analysis and understand which lesions were really dealt to kill and which not (made as an attempt to hide the corpse or by animals).

These preliminary data suggest that immunohistochemical analysis could be a useful tool in determination of wound vitality. Additional studies are necessary to confirm our results and to propose a standardized method for all forensic cases.

PP-842

The Analysis Of Number And Effects Of Animal And Human Aggression To Human

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Background: Every single day humans become victims of other human assaults, incidental accidents or disasters. Every single day animals die struck by cars, killed by humans, or other animals. These every day events are present throughout our lifetime and most often passed by unnoticed. What changes how the situation is dealt with is when a human is attacked by an animal. The information is repeated, media publicizes the facts, and enriches them in presumptions and conclusions. The general hysteria increases.

The aim of the paper was: to evaluate the number of animal aggression including the cases of death, to analyze the victims of aggression according to sex, age and type of injuries, and to compare the total number of animal versus human bite victims.
Method: The analysis included autopsy protocols and protocols of medical-legal examination performed in the Department of Forensic Medicine in PUMS from years 2004–2009. Cases with animal bite injuries were selected from the protocols. Data was analyzed according to particular categories.

The information collected was based on the cases reported or submitted to the department either directly by a victim or legally by law enforcement officials. Overall, occurrence of animal aggression is probably more frequent and includes cases never reported for the medical-legal examination.
Results: The analysis revealed presence of animal bite injuries in 0,81 % of all the victims of aggression. All the bite marks found were postmortem in type. During the period, there were no deaths due to animal aggression occurring. The number of deceased people with animal bites found during autopsy in particular years was comparable and did not exceed four cases in a year.

The protocols of medical-legal examinations documented the presence of animal bite injuries in 0,89 % of victims. Number of victims with animal bite injuries varied from 3 to 10, but never exceeded 1.5 % of all cases. The number of female and male victims of animal aggression was comparable. Majority of animal bites occurred in adults. The most frequently medium injuries were observed. Apart from the animal bites injuries, the investigation showed the presence of human bite injuries in 0,54 % of victims.
Conclusions: The analysis confirmed the observation that animal aggression is marginal, especially when compared to the aggression of a human against another human. In contrary to the aggression of human towards another human, it is a very rare cause of human death or even major injury.

PP-843

Virtual reconstruction of a stab wound

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One of the most important, and challenging at the same time, diagnosis in forensic pathology is that between self-inflicted and non-self-inflicted stab wound.

We report a case of a young man who was found dead along the street. The autopsy revealed the presence of a stab wound in the left fifth intercostal space, 2.5 cm long and 12 cm deep, reaching the anterior surface of the left ventricle. The edges of the wound in the skin suggested that a single-edge blade knife was used, whose length was 12 cm or higher. The wound was inflicted with the knife slightly angled toward the cranium in the craniocaudal axis and toward the median line in the mediolateral axis. The victim also presented a linear superficial cut wound on the second finger and scrapes on the third and fourth finger of his right hand. The knife was never found. Eight days after death, a man went to the police station and confessed the murder. During the following interrogation, he stated that after a quarrel they started fighting and, when the victim pulled out the knife, he grabbed the victim's wrist, turned the blade towards the victim who, de facto, stabbed himself in the assault. The clinical forensic examination of the suspected murderer diagnosed an abrasion in the left pectoral area and some other scrapes on his right hand's fingers.

The Prosecutor had to test these two hypothesis: the deceased was killed during a quarrel or he accidentally stabbed himself while fighting. In this case the traditional medico-legal approach, based on the characteristics of the wound compared with the anthropometric features of the two individuals, such as e.g height and handedness, together with the compatibility between the lesions of the hand and typical defense wounds has been used. Furthermore, a simulation involving two man with anthropometric features similar to the victim and assailant was realized. Finally a virtual 3D reconstruction of the two hypothetic dynamics was made to identify the most likely.