3515   POSTER

Is there a relationship between cadmium and human breast cancer?

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Background: Cadmium is a known human carcinogen based on findings of lung cancer in exposed populations. A more controversial target site for cadmium is the human mammary gland, for which some studies indicate a link between cadmium exposure and cancer. Some authors suggest that cadmium is a new environmental estrogen that mimics the effects of estradiol in estrogen-responsive breast cancer cell lines. In order to assess an association of cadmium with human breast cancer, we examined cadmium concentration in urine and breast tissue of patients with breast cancer and non-malignant breast tumour.

Material and Methods: Cadmium was analyzed in the samples of urine and breast tissue of 57 breast cancer patients and 50 benign tumour patients. Two samples of breast tissue from each patient, i.e. tumour and some healthy tissue close to tumour were taken for the analysis. Cadmium was determined by atomic absorption spectrometry (Perkin-Elmer, Zeeman 3030). Estrogen receptors (ER) determined by immunohistochemical assay.

Results: The mean cadmium concentration in breast cancer patients was 53.4 ng/g (95% CI = 42.2−64.6) for tumour sample and 20.1 ng/g (95% CI = 14.4−25.9) for healthy breast tissue sample (p < 0.001). In benign tumour patients the figures were following: 37.2 ng/g (95% CI = 23.3−51.1) and 32.1 ng/g (95% CI = 17.5−46.5) (p = 0.449). Cadmium concentration found in the sample of malignant tumour differed significantly from that in the sample of benign tumour (p < 0.001). Significantly higher concentration of cadmium determined in breast cancer patients with positive ER compare to that with negative ER (67.5 ng/g 95% CI = 48.7−86.2 vs. 42.5 ng/g 95% CI = 28.6−56.4, p = 0.035). There was a positive correlation between cadmium in the samples of breast tumour and urine (R = 0.3, p = 0.01). In breast cancer patients cadmium in urine correlated with number of cigarettes smoked during lifetime (R = 0.7, p = 0.02).

Conclusion: The data obtained show a possible relationship between cadmium and breast cancer.

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Trends in incidence rates of tobacco-related cancer in Belarus, 1970−2005

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Background: To analyze trends in the incidence rates for cancer types most strongly associated with tobacco use over the last 36 years.

Material and Methods: Data were obtained from National Cancer Registry. Age-specific incidence rates for some cancers most strongly associated with tobacco (lung, larynx, esophagus and bladder cancers) were investigated and age-standardized incidence rates (ASRs, World Standard) were calculated. Smoothing of rates was made with method of moving averages. Tendency equations were plotted using linear regression method.

Results: Smoking-related cancers are more common in men than in women. Significant (p < 0.001) positive slopes were revealed for all sites in male population (lung: 1.25 with standard error SE = 0.09; larynx: 0.15 with SE = 0.015; esophagus: 0.11 with SE = 0.007; bladder 0.296 with SE = 0.011). For women significant (p < 0.001) positive slope was found for lung (0.02 with SE = 0.005) and bladder (0.037 with SE = 0.002) cancers. Significant negative slope was revealed for cancer of esophagus (−0.014; SE = 0.001). No clearly defined trend was observed in larynx cancer in women.

More expressed growth tendency for lung cancer was observed till 1988 in women (slope 0.076) and till 1995 in men (slope 1.85). Lung cancer rates in female has been on the stable level (ARSs about 5.1 per 100,000) since the beginning of 1990s. But age-specific rates have shown a negative upward trend in the middle age groups for rural women. Lung cancer rates in male showed a tendency to decline (between 1995 and 2005 ASRs decreased by 13.3%; in 2005 incidence rate was 61.9 per 100,000). Esophagus and bladder cancer ASRs in men have also stabilized since the middle of 1990s.

Conclusions: Since the prevalence of smoking remains unacceptably high in Belarus, tobacco-related cancers present a serious medical and social problem, despite of some stabilization in incidence last years.

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Cervical cancer awareness and screening programme in rural Bengal by using mobile unit – an ongoing project

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Background: West Bengal is situated in the Eastern part of India and is under developed in medical facilities. Total population of Bengal is 6 crores. A total of 75,000 new cancer patients are detected every year where as total number of cancer patients are about 5 lacs. Cervical cancer is the commonest cancer in females in rural Bengal. About 80% of them remain undetected. Even after detection only 20% go for proper treatment.

Objective: The aim of our study is to detect the incidence of Cervical Cancer, and their causative factors. We also intend to give proper awareness about the early signs of cervical cancer using mobile unit so that it can be detected earlier and possible to cure.

Material and Methods: During period from Jan 2009 to Dec 2011 we've taken a project of cervical cancer awareness and detection programme in the rural West Bengal by mobile unit. There will be 2 mobile units; one covers the south Bengal and other north Bengal. Each unit is having a team of 2 gynecologic oncologists, 2 oncology nurses and 3 social workers. Each unit is covering one block in a week. There is an awareness camp, arranged in each block where the doctors give awareness of early symptoms of cervical cancer. Then samples are taken for next 7 days in that area. This way all 294 blocks will be covered over a period of 3 years.

Results: In this project of 3 years 30, 000, 00 women will be given awareness of cervical cancer and expected 3, 000, 00 samples will be collected for Pap smear. In oue initial survey participation in a particular area for an awareness programme is 80%. More than 90% of symptomatic and 3−4% of asymptomatic patients are being positive by Pap smear.

Conclusion: Cervical Cancer screening program using mobile unit is being very useful. Majority of the patients are asymptomatic and detected in early stage and cure is possible by appropriate treatment.

3518   POSTER

Breast cancer mortality in Tbilisi (Georgia) in 2002−2004

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Background: Data base was created to determine causes of death outcome in breast canser patients on the basis of the Tbilisi population-based cancer registry for 2005−06. In total, 33478 subjects were selected deceised in 2002−2004.

Material and Methods: Descriptive analytical epidemiological study was conducted after electronic population data quality assesment and software processing.

Results: Death structure of Tbilisi for 2002−04 shoed that female population composed almost half (45.8%) of mortality cases caused by cancer of reproductive system, presented by sites as: breast – 28.4%, ovarian – 6.4%, cervical – 5.6% and endometrial cancer – 5.4%. 845 female death cases were attributed to breast cancer in 2002−04, that means that per 100,000 Female Tbilisi citizens, breast cancer related death rate annually is 48 (crude rate), 33 (Age Standardized Death Rate (World Standard)), 43 (Age Adjusted Death Rate (Tbilisi 2002 Standard)). From birth to the age of 65 cumulative risk (CR0−64) of breast cancer caused death per females of Tbilisi population was 65. In the death structure of Tbilisi Female Population in 2002–2004, from the age of 25, the first rank place is taken by breast cancer. At the same time, the breast cancer takes the first place in the death structure of any kind of causes at the age of 35−59. With age increasing from 60 breast cancer moves to II, IV, V, IX and, from 80 moves to X rank place. In the 25 age interval (age group 35−59) breast cancer is a leading site in female cancer death bu sites and a leading cause of Tbilisi female population death. Cancer of female reproduction system organs: breast, ovarian, cervix and corpus uteri are included in 10 main sites cancer, caused female early death. In the cancer death structure in Tbilisi female population at the age groups 30−44 and 50−54 the cervical cancer ranks II. Cervical cancer also takes the II rank in the death structure of any kind of causes in the age group 40−44. In the post menopausal period, at the age between 50−64, ovarian cancer related death takes II-III ranks in the cancer caused death structure and VI-IX, in the overall death structure. It should be noted that in the post menopause, from the age of

50, among 10 main sites of cancer death, endometrial cancer generally takes III-V rank places.

Conclusions: Mortality cause structure for 2002–2004 was determinted in Tbilisi for the first time; Breast cancer appears to be the primary cause of early female mortality.

3519 POSTER

Aggressiveness of breast cancer on radioactive contaminated territories of Grodno region (Belarus)

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Backgrounds: Some parts of Grodno region are contaminated with cesium-137. Level of contamination 1−5 CU/km^2. Treatment of breast cancer is strongly standardized in Grodno region. Thus differences in outcomes (if any) could be explained by underlying conditions. In this work we tried to compare outcomes of breast cancer on contaminated and noncontaminated territories. Such comparing could answer the question if breast cancer patients from contaminated territories require specific treatment which differs from standard protocols.

Methods: To define contaminated territory map of contamination of ground with cesium-137 was used. Data from national cancer-registry were analyzed using retrospective cohort study design. Group of interest was made of all breast cancer patients (diagnosis established from 1986 till March 2009) from contaminated territories of Grodno region – 86 patients. Comparison group was made from all breast cancer patients (diagnosis established from 1986 till March 2009) from randomly chosen noncontaminated district of Grodno region – 145 patients. Urban and rural populations were analyzed as subgroups. 5 years overall survival, relapses and metastases were compared as outcomes in these groups.

Results: Stage representation at the time of diagnosis was I 19%, II 52%, III 20%, IV 9% in comparison group and I 21%, II 50%, III 16%, IV 13% in investigation group. 5 years overall survival was higher in comparison group than in group from contaminated territories: 61% and 50% respectively, P = 0.09. Frequency of relapses/metastases was slightly higher in investigational group: 33% and 30%, P = 0.64. The situation in subgroups was the similar to those in main groups: patient from noncontaminated territories had nonsignificantly higher 5 years survival rates, and nonsignificantly smaller risk of relapses/metastases.

Conclusions: In this work we failed to obtain statistically significant results. This study was unable to answer the question if breast cancer patients from contaminated territories require specific treatment what differs from standard protocols or they do not. Situation requires further investigation.

3520 POSTER

Clinical characteristics of patients with lung cancer and metachronous or synchronous tumours with other localizations

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Background: Lung cancer is the most common form of death of cancer in the world. Cancer patients are at high risk of developing a second cancer. The present study attempts to determine the characteristics of a population with lung cancer with the diagnostic metachronous or synchronous of other cancer.

Material and Methods: Using clinical records from the Department of Lung Oncology of our Hospital from 2000 to 2007 we analysed the demographic characteristcs of patients identified to have multiple tumours.

Results: Out of registered cases (n = 1046), there were 4.2% (n = 44) multiple cancers (88.6% males, median age 70). About 86% (n = 38) of the patients were smokers or former smokers. From the patients with record of family history 65.4% (n = 17) had relevant family history of cancer. The majority of the first malignancy diagnosed was from prostate, colon, head and neck and bladder. The lung cancer was essentially the second malignancy. The mean time between the two diagnoses was 62.9±64.9 months (max: 240, min: 0), and usually the second cancer was detected in an advanced stage. The median survival of patients who had a second primary lung cancer was 8.6±8.24 months (max: 32 min: 1), and five patients are still alive.

Conclusions: Our results suggest that careful follow-up is needed for these patients; using screening strategies according to the international recommendations, and controling carcinogenic risk factors like tobacco smoke. We suggest a risk algorithm individualised and a further study to try to understand if there are particular genetic and molecular markers in these patients.

3521 POSTER

Assessment of the epidemiology of lung cancer and change in its spectrum over time at a tertiary care institute in North India

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Background: Smoking remains the most important risk factor for the development of lung cancer (LC). In the recent past, adenocarcinoma [AdC] has become the most common histological type of LC in the developed countries. There is paucity of data on the change in epidemiology of LC from India. The aim of the current study was to assess the smoking status and current distribution of various histological types [H-type] among newly diagnosed LC patients.

Materials and Methods: Prospectively collected data on 250 newly diagnosed LC patients initiated on chemotherapy after January 1, 2008 was analyzed. Demographic details, H-types and details of smoking status were noted. Descriptive data is presented as mean [standard deviation (SD)] and as percentages (%). Quantitative and qualitative data were compared between smokers (Sm) and non-smokers (N-Sm) using student t-test and chi-square test respectively. Results were compared with the previous study published by the authors in 1990 [1].

Results: Overall, 72.7% of the patients were Sm. Amongst males, 84.0% were Sm whereas 76.1% of females were N-Sm (p < 0.0001). Squamous cell [SqCC] (34.2%) and AdC (25.7%) were the most common H-type, over all. Among Sm, SqCC (38.8%) and small cell [SCLC] (21.9%) were the most common H-types and the distribution differed significantly from that seen in N-Sm where AdC (47.0%) was the commonest. The percentage of patients with non-small cell lung cancer (NSCLC) who presented with advanced disease (stages IIIB and IV) was higher among N-Sm (96.5% vs. 77.4%, p = 0.002). No differences were seen in relation to the percentage of SCLC patients who presented with advanced disease (59.0% in Sm vs. 66.7% in N-Sm, p = 0.72). A comparison of the demographic characteristics in the authors' current and previous study is given in the table below.

Conclusions: There has been no significant change in the epidemiology of LC in North India over the past three decades. SqCC remains the most common H-type overall as well as among Sm. N-Sm have AdC as the predominant H-type and present more commonly with advanced NSCLC.

	Current Study (n = 250; 2007−09)	Jindal et al, 1990 (n = 1009; 1977−86)
Mean Age (years)	57.9	54.3
Male:Female	4.34:1	4.48:1
Smoker:Non-smoker	2.67:1	2.68:1
Histology		
Squamous cell	35.1%	34.3%
Adenocarcinoma	26.2%	25.9%
Small cell	18.6%	20.3%

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3522 POSTER

Tendency of mortality of cervical cancer for the state of Minas Gerais (1980–2005)

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Background: Among Brazilian women cervical cancer is the fourth cause of known cancer death and the second cancer most incident. The late beginning of the national screening program, in relation to developed countries, and the difficulties found to guarantee the screening coverage to the target population has been contributed to maintain this disease as a relevant public health in Brazil. The aim of this study was to assess the trends of the mortality due to cervical cancer and uterus not otherwise specified (NOS) from 1980 to 2005 in the state of Minas Gerais, Southeast Brazil.

Material and Methods: Demographic and death data were collected from the national data bank (DATASUS). To assess the tendency of mortality by age and period the approach of linear regression was used. The taxes were also log transformed in order to obtain the percentage of change in the mortality by year. The period-cohort analysis was carried out using Tarone & Chu's non parametric method.