

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

Conclusions: Mortality cause structure for 2002–2004 was determined 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)

D. Kazakevich¹, I. Myshko², F. Miklashevich², V. Vdovichenko¹. ¹Grodno State Medical University, Pharmacology, Grodno, Belarus; ²Grodno Regional Hospital, Oncology, Grodno, Belarus

Backgrounds: Some parts of Grodno region are contaminated with cesium-137. Level of contamination 1–5 CU/km². 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

I. Luis¹, R. Macedo², E. Teixeira², R. Sotto-Mayor². ¹Hospital Santa Maria, Oncology, Lisboa, Portugal; ²Hospital Santa Maria, Pneumology, Lisboa, Portugal

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 characteristics 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 controlling 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

N. Singh¹, A.N. Aggarwal¹, D. Gupta¹, D. Behera¹, S.K. Jindal¹. ¹Postgraduate Institute of Medical Education & Research (PGIMER), Pulmonary Medicine, Chandigarh, India

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%

References

- [1] Jindal SK, Behera D. Clinical spectrum of primary lung cancer: review of Chandigarh experience of 10 years. Lung India 1990; 8: 94–98.

3522

POSTER

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

C. Alves¹, R. Bastos², M. Guerra¹. ¹Universidade Federal de Juiz de Fora, Epidemiology, Juiz de Fora – MG, Brazil; ²Universidade Federal de Juiz de Fora, Statistics, Juiz de Fora – MG, Brazil

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.

Results: It was analyzed 12,606 cases; 53.42% cervical cancer and 46.58% uterus not otherwise specified (NOS) cancer. A reduction in the mortality due to cervical cancer and uterus not otherwise specified (NOS) for the age and period analyzed was found; at around 1.93% yearly. This reduction was mainly related with the cases of cancer of uterus not otherwise specified (NOS). In the age-period-cohort analysis the reduction was less than expected for the cohorts from 1901–1908 and 1921–1928. There was a reduction bigger than expected for the cohorts from 1913–1920, 1929–1932, 1937–1946, 1949–1956, 1963–1970 and 1969–1976. It was also found a bigger reduction than expected for the period from 2000–2001.

Conclusions: The reduction in the mortality due to cervical cancer and uterus not otherwise specified (NOS) in the state of Minas Gerais was unmistakable in the period studied. The findings show the influence of the birth cohorts over the decrease in mortality. Although the screening coverage is still considered unsatisfactory in this region, it was also pointed out the potential influence of the improvement in the access to diagnostic methods and adequate treatment in the last years, as well the possible effect of the improvement of the population education level observed along this period.

Public health, health economics, policy

Poster presentations (Thu, 24 Sep, 09:00–12:00)

Public health, health economics, policy

3600

POSTER

Economic impact of breast cancer management: a revolutionary change in ten years

H.M. Heneghan¹, C. O'Neill², M.J. Kerin¹. ¹Clinical Sciences Institute National University of Ireland Galway, Department of Surgery, Galway, Ireland; ²National University of Ireland Galway, Department of Economics, Galway, Ireland

Background: Modern breast cancer management has led to significant changes in the cost of treating this common malignancy. Given the projected increase in the incidence of breast cancer over the next decade it is important that policy makers have a clear understanding of the level and composition of costs as well as the factors that underlie variations in them, so that provisions can be made for cancer care in the future. We aimed to assess how changing practice patterns of breast cancer management over the last decade have affected the cost of treatment provision.

Materials & Methods: A detailed profile of care pathways for all new patients diagnosed and treated for breast cancer at UHG in 1995/1996 and the years 2005/2006 was constructed. (N = 613 patients). A bottom-up approach was used to determine costs. Differences over time, and in unit costs over the time period, were explored.

Results: The overall cost of breast cancer management increased 7.7 fold over the ten year period, from a total expenditure of 1,314,741 euro (adjusted for currency change and inflation) to 10,084,304 euro in 2005/2006. The cost of an individual breast cancer patient's care pathway profile rose from 6541 euro to 24656 euro (3.8 fold increase). Whilst the mean cost of breast cancer diagnosis more than halved over the last decade, we observed increases in the cost of all treatment modalities. The greatest increases in cost were accrued in the use of adjuvant chemotherapy (14 fold increase) and other adjunct therapies including Trastuzumab and bisphosphonates (20 fold increase).

Conclusion: The shift to minimally invasive diagnostic and treatment modalities, albeit to the patients benefit, has had substantial cost implications. The extent of such cost increases must be made known, to policy makers and service providers, in order to predict the impact this could have for cancer service provision in the future.

3601

POSTER

Breast cancer research from Low- and Middle-Income Countries (LMCs) published in high impact medical journals

Z. Lwin¹, N. Leigh¹, M. Krzyzanowska¹. ¹Princess Margaret Hospital, Medical Oncology, Toronto – Ontario, Canada

Background: In 2010, the projected number of new breast cancer cases worldwide will be 1.5 million/year. The majority will be in LMCs where 75% of new cases are diagnosed at an advanced stage. Sustainable low-cost interventions are required to help manage this burden. The aim

of this review was to analyse the relevance of breast cancer research involving LMC investigators published in high impact medical journals to the management of breast cancer in LMCs.

Methods: We identified all breast cancer-related articles published in 2007 in 14 high-impact medical journals: 6 medical oncology, 5 general medicine and 3 breast cancer journals, by manually reviewing tables of contents. Articles with at least one author from a low- or middle-income country were then reviewed in detail regarding study design, type of question addressed and its relevance to management of breast cancer in LMCs. For clinically relevant articles, the intervention under study was classified into 1 of 4 levels of resources required for implementation: basic, limited, enhanced or maximal as defined by the International Breast Health Initiative Guidelines (Cancer; Oct 2008 Supplement).

Results: Of 804 articles focusing on breast cancer that were published in one of the selected journals in 2007, 84 (10%) included authorship from LMCs usually from middle rather than low-income countries, most commonly China (23/84, 27%) and Poland (13/84, 15%). In 51 (60%) articles either the primary or senior author was from a LMC. Research funding was not specified in 27 (32%) articles and from non-profit sources in 46 (54%). Of the 84 articles 38 were laboratory-based, 17 clinical trials, 8 observational studies, 2 health economic evaluations and 19 other type (such as reviews and quality of life analyses). Sixty of the 84 articles were clinically relevant. Among this subgroup, 40 (66%) articles evaluated interventions requiring at least "enhanced" level of resources and only 36% discussed LMC perspectives.

Conclusion: Only a minority of breast cancer research published in high impact journals involve investigators from select few LMCs. Even among articles that involve such investigators, majority address questions that require at least enhanced level resources likely not routinely available in these settings.

3602

POSTER

Social & geographical factors affecting stage at presentation & access to treatment for colorectal cancer

S.M. Crawford¹, V. Sauerzapf², R. Haynes², H. Zhao², D. Forman³, A.P. Jones². ¹Airedale General Hospital, Medical Oncology, Keighley, United Kingdom; ²University of East Anglia, School of Environmental Sciences, Norwich, United Kingdom; ³University of Leeds, Centre for Epidemiology and Biostatistics, Leeds, United Kingdom

Background: Patients from Great Britain and Ireland with cancer tend to have poorer outcomes from cancer than those from socially and economically similar countries. As part of a large study "Rural aspects of cancer survival" we have studied some factors affecting treatment for colonic (C) and rectal (R) carcinomas.

Methods and Results: Records of 39,619 patients with information on treatment received were obtained from the Northern & Yorkshire Cancer Registry and Information Service. Patients were divided into quartiles according to travel time to the nearest hospital and their socioeconomic deprivation. Age and sex affected the likelihood of intervention; illustrative odds ratios for this occurring are shown in the Table. TQ1 is the nearest and TQ4 is the most distant travel quartile and DQ4 is the most deprived. The reference group is TQ1/DQ1.

Site & variable	N for this analysis	TQ4/DQ1	TQ1/DQ4	TQ4/DQ4
C: Stage 4 vs Stage 1–3	11,163	0.969	1.157	1.257
R: Stage 4 vs Stage 1–3	7,058	1.197	1.553*	1.613*
C: Stage 3 vs Stage 1–2	7,812	1.361	0.716	1.781*
R: Stage 3 vs Stage 1–2	5,201	0.963	1.127	1.036
C: Any treatment†	28,228	0.810	0.544**	0.322**
R: Any treatment†	11,391	1.050	0.590*	0.810
C: Chemotherapy for Stage 4	3,351	1.065	0.462**	0.535
R: Chemotherapy for Stage 4	1,857	0.969	0.707	0.766

All adjusted for age and sex: † adjusted for stage: *P<0.05 **P<0.01.

Conclusions: There is a tendency for patients from the most deprived areas to be denied access to treatment for colorectal cancer; this is stronger for colonic cancer, and also to present at later stages. There is no clear trend for distance of the nearest hospital from their residence to affect these.