

area for screening among the surveyed physicians. Both SOBT and sigmoidoscopy are prescribed at low rates. The usefulness of these tests in screening should be better emphasized since these tests are both recommended and widely accepted

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POSTER

Regional models of care for systemic therapy: standards for organization and delivery

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Background: Rapidly expanding indications for cancer systemic therapy combined with human resource and facility constraints require innovative approaches to deliver care that is safe, patient-centred, and evidence-based across Ontario, a province covering 1 million sq km, organized into 14 regions of varying size, each with about 1 million inhabitants. A systemic therapy project team was assembled to recommend the best way to organize the delivery of ambulatory systemic therapy in Ontario.

Methods: A core multidisciplinary panel reviewed the evidence and developed the standards. The panel used evidence-based analysis of relevant publications, an environmental scan of existing recommendations from other jurisdictions and expert opinion based on experience and consensus to formulate a standards document to guide treatment delivery. This was reviewed and amended by the full project team. The document was circulated to oncologists, family practitioners, internists, pharmacists, nurses and administrators who work in or have responsibility for systemic therapy in the regions for practitioner feedback.

Results: A Regional Systemic Treatment Network Model was developed in which Integrated Cancer programs (ICPs) provide comprehensive cancer services, leadership of quality and overall organization/coordination for the region. Systemic Treatment Networks (STNs) include ICPs directly linked to satellite centres and also affiliated to centres with their own systemic therapy programs to provide appropriate systemic therapy services for all regions under a common set of standards. Four levels of care are recommended, with complexity and availability of services differentiating the levels. For each level, standards were established for; 1. Providers and their roles, 2. Education for providers, 3. Service type and complexity, 4. Service volumes, 5. Quality assurance and safety, 6. Facility requirements, 7. Administrative and organizational responsibilities. The intent is to provide the same standard of care in the most appropriate setting within the appropriate time frame. STNs will implement, monitor and evaluate quality indicators.

Conclusions: A detailed review of the document including results of practitioner feedback as well as survey results from the 14 STNs to determine whether standards are being currently met will be presented.

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POSTER

Assessment of nutrition in cancer patients and its effect on treatment outcome – a study from a developing country

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Background: In developing countries 40% people suffer from mal-nutrition. It has been shown that a good nutritional status can reduce complications of treatment, strengthen the immune system and contribute to the patient's general well being throughout cancer treatment. A good nutritional status is therefore essential for optimal tolerable treatment of a cancer patient. The aim of our study was to see the nutritional status of cancer patients on diagnosis and effect of nutrition on outcome of therapy.

Methods: In this study we prospectively analyzed the nutritional status of 700 cancer patients in Netaji Subhash Chandra Bose Cancer Research Institute, a tertiary cancer center of eastern India during period from January 2004 to December 2006. The age range of the patients was 1 month to 87 years (median age 37 years). The parameter analyzed were weight for age, total protein, serum albumin and mid arm circumference. The weight for age and mid arm circumference were taken as normal if they were between 3rd and 97th percentile curve of the growth chart

recommended by the Indian Council of Medical Research. The albumin level and the total protein were considered normal if the value is equal to or more than 3gm% and 5.8gm%.

Result: It was seen that total 180 patients (25.71%) were low weight for age and 145 patients (20.71%) had low mid arm circumference. Total 140 patients (20%) had low serum albumin while 175 patients (25%) were low serum protein. Low weight for age, low serum albumin and low mid arm circumference were significant factors in remission, disease free survival and toxicity of chemotherapy (p value <0.001).

Conclusion: We conclude that mal-nutrition is a major finding in cancer patients in developing country like ours. The patient with mal-nutrition had less remission of disease, disease free survival and more toxicities during therapy as compared to well-nourished patients.

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POSTER

Childhood cancer pattern: a hospital based cancer registry from a developing country

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Background: More than 80% of world children live in developing countries where adequate medical care is limited. A very few studies have been done in the epidemiology of childhood cancer in the developing countries. Whatever studies have been done in Asia, the incidence of childhood cancer is 3–5% of all cancers. The aim of our study is to see the incidence of childhood cancer and their disease pattern from the hospital based cancer registry.

Material & Methods: During period from January 2000 to December 2006 we analyzed our hospital based Cancer Registry data in Netaji Subhash Chandra Bose Cancer Research Institute, Kolkata a tertiary cancer center in Eastern India. There were total 18000 patients who attended in our institution as Outpatients and Inpatients. Among them 1500 were the childhood age group (<18 yrs).

Results: In our hospital based cancer registry the patients of childhood age (<18 yrs) group were 8.33%. The distribution of patient according to the age group (1–5 yrs), (6–10 yrs) and (11–18 yrs) were 320 (21.33%), 754 (50.26%) and 416 (27.73%) respectively. Most frequently childhood cancer were Acute Lymphatic Leukemia 380 (25.33%), Lymphomas 376 (25.06%) (Hodgkin's disease 25%, Non Hodgkin's disease 75%), Round Cell Tumours 225 (15%) (Ewing's Sarcoma 33.33%, Primitive Neuro Endocrine Tumour 26.66%, Rhabdomyosarcoma 22.22%, Neuroblastoma 12.44%), Brain Tumour 148 (9.86%) (Medulloblastoma 91.21%, Astrocytoma 8.78%), Wilm's Tumour 78 (5.2%), Acute Myeloid Leukemia 66 (4.4%), Germ Cell Tumour 62 (4.13%), Osteosarcoma 55 (3.66%), Chronic Myeloid Leukemia 42 (2.8%), Retinoblastoma 29 (1.93%), Soft tissue sarcomas and other malignancies 39 (2.6%).

Conclusion: The incidence of paediatric cancer in our study was higher as compared to other studies. Children in Indian subcontinent showed a different pattern of cancers with excess of Lymphomas (specially Hodgkin's Lymphoma) and Round cell tumours as compared to those reported in Western Literature.

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POSTER

Second malignant neoplasms after acute myeloid leukaemia in Great Britain 1970–2000

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Aims: To ascertain the risk, number and type of second malignancies occurring after treatment for childhood acute myeloid leukaemia (AML) in Great Britain between 1970 and 2000.

Methods: The population-based National Registry of Childhood Tumours was searched for subsequent malignant neoplasm (SMN) among cases of AML diagnosed 1970–2000. Pathology reports were sought from treating hospitals to confirm diagnosis of SMN.

Results: There were 2,396 cases of AML diagnosed among children aged under 15 years between 1970 and 2000, contributing 8,499 person years of follow up to the end of 2002. At that time, 567 individuals had survived at least 5 years from diagnosis and 345 had survived at least 10 years. Ten individuals developed SMN (see Table). Of these, seven had received total body irradiation (tbi), all within a year of AML diagnosis. The standardised incidence ratio for all SMN combined was 6.0 (95% CI 2.9–11.0). The most frequently observed second tumour was papillary thyroid carcinoma, and the 3 individuals with these tumours had all received stem cell transplant (SCT) with total body irradiation (tbi).

Case	Age at AML	SCT+tdi	SMN	Period since AML diagnosis (y)
1	10 y	+	dural sarcoma	3.5
2	13 y	+	cholangiocarcinoma	18.2
3	14 y	+	papillary thyroid carcinoma	19.0
4	9 y	+	papillary thyroid carcinoma	13.7
6	6 y	+	round cell sarcoma pelvis	7.4
7	9 y	+	papillary thyroid carcinoma	7.8
8	9 y	+	osteosarcoma thoracic spine	8.9
5	3 y	-	Ewing's tibia	5.0
9	22 mo	-	parotid mucoepidermoid carcinoma	10.0
10	4 y	-	rhabdomyosarcoma of perineum	2.5

Conclusions: This study confirms that survivors of childhood AML do not appear to be at an especially high risk of second malignancy compared with childhood cancer survivors in general (ref Jenkinson, Br Journal Cancer 2004. SIR 6.2 among 16,541 three year survivors of childhood cancer in Britain treated up to end 1987). The association of SCT with tbi followed by thyroid carcinoma has been described by others and may have implications for clinical follow up.

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POSTER

The importance of environmental and lifestyle factors related to the risk of lung cancer. An epidemiological study of over 4000 Czech men and women

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Background: The aim of the study is to investigate the impact of diet/physical exercise on the risk of lung cancer in women and men, and to reveal interactions between smoking and other risk factors.

Materials and Methods: In a hospital based case-control study data collected by in-person interviews from 1096 microscopically confirmed lung cancer cases (587 female, 509 male) and 2966 controls were analyzed using unconditional logistic regression stratifying by appropriate factors.

Results: In subjects with adenocarcinoma, protective effects were observed for wine (OR=0.68) and physical exercise (OR=0.59) among women, while no significant associations were found among men.

In patients with squamous-, small- and large cell cancers, protective effects appeared for wine (OR=0.71) and physical exercise (OR=0.70) among women, and for apples (OR=0.62) among men.

Excess risk of squamous-, small- and large-cell cancers combined was associated with the intake of red meat in women (OR=1.66).

Comparing the effects of diet and physical activity on lung cancer risk among nonsmokers versus smokers, effect modifications (interactions) were found for black tea (P=0.009), and milk/dairy products (P=0.034) among women, and for spirits (P=0.044) among men.

Conclusions: Diet and physical exercise may act as important modifiers of the association between smoking, the dominant risk factor, and lung cancer risk. In this study, statistically significant associations of diet/physical activity with the risk of squamous-, small- and large cell cancers were observed more frequently than those with adenocarcinoma. Supported by grant #NR/8411-3 of IGA of Ministry of Health of the Czech Republic.

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POSTER

Early epirubicin-induced myocardial dysfunction revealed by serial tissue doppler echocardiography (TDI). correlation with inflammatory and oxidative stress markers

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Background: A phase II open non randomised trial was carried out in a group of epirubicin-treated patients with cancer at different sites with the aim to detect early preclinical changes, predictive of risk of heart failure. All subjects underwent conventional echocardiography, as well as tissue Doppler imaging (TDI) with Strain Sigma and Strain Rate (SR), a very accurate technique in detecting minimal changes in the cardiac left ventricular (LV) function. Moreover, echocardiographic changes were compared with those of a series of biochemical markers of both myocardial damage and inflammation/oxidative stress.

Patients and Methods: Sixteen patients with histologically confirmed tumors at different sites, scheduled to be treated with epirubicin-based chemotherapy were enrolled.

Results: A significant impairment of the systolic LV function was observed at epirubicin 200 mg/m²; the SR peak decreased significantly in comparison to baseline (1.82±0.57 sec⁻¹ vs 1.45±0.44 sec⁻¹), whereas the Sigma remained unchanged. The following significant changes of LV diastolic function occurred, only after the epirubicin dose of 300 mg/m²: a decrease of conventional E/A (1.16±0.31 vs. 0.93±0.24), and a reduction of both Em wave (8.86±1.73 cm/sec vs. 7.51±2.30 cm/sec) and of Em/Am ratio (1.09±0.51 vs. 0.83±0.51), measured with TDI technique. No significant changes of LV ejection fraction were observed. Levels of IL-6, sIL-6R and ROS increased significantly, whilst GPx decreased significantly after epirubicin 200 mg/m². A significant correlation between the reduction of SR peak (DeltaSR) at epirubicin 200 mg/m² and increase of IL-6/ROS and decrease of GPx was observed. The multiple regression analysis showed that the only independent predictive variable of DeltaSR was ROS level.

Conclusions: Our data show that: (a) subtle cardiac abnormalities may occur at epirubicin doses significantly below those known to be potentially clinically harmful; (b) earliest myocardial impairment affects the LV systolic rather than diastolic function. Early contractility impairment was associated with high levels of ROS and markers of inflammation. The clinical meaningfulness of our findings warrants further investigations on a higher number of patients for a longer period of follow-up.

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POSTER

Mortality trends for colorectal cancer in Spain, 1980-2004

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Background: Monitoring cancer burden is of great value to provide opportunities for aetiological research and prevention. We examined recent trends in colorectal cancer mortality in Spain.

Methods: Age-standardized (world standard) death rates per 100,000 were derived from the WHO mortality database for the period 1980-2004. During the calendar period considered, two different revisions of the International Classification of Diseases were used ICD-9, codes 153-154 and ICD-10, codes C18-C21. Jointpoint analysis was performed to identify significant changes in death rates using the software provided by the Surveillance Research Program of the US National Cancer Institute. In jointpoint analysis, the best fitting points are chosen where the rate changes significantly. The analysis starts with the minimum number of jointpoints (0 jointpoints), and tests whether one or more jointpoints (up to three) are significant and must be added to the model. The estimated annual percent change is then computed for each of those trends by fitting a regression line to the natural logarithm of the rates, using calendar year as a regressor variable. To test for differences among men and females, we computed mortality sex ratios (males/females) for each year, with the corresponding 95% confidence intervals.

Results: In men, mortality for colorectal cancer showed a persistent upward trends over the period considered: death rates increased by 4.16% annually between 1980 and 1994 (from 9.55 to 16.09/100,000) and by 0.85% between 1994 and 2004. For women, the death rates increased by 3.91% between 1980-1988 and by 1.27% between 1988-1996. A declining trend for colorectal cancer mortality (-0.86% per year) was observed between 1996-2004 (rates ranged from 10.06 to 9.54/100,000). The mortality sex rate ratios (M/F) increased from 1.36 (95% CI:1.24-1.50) in 1980 to 1.86 in 2004 (95% CI:1.72-2.01).

Conclusion: Sex differences for colorectal mortality have been widening in the last decade in Spain and may be attributable, in part, to differential sex exposure to major environmental risk factors in absence of known gender-based differences in diagnostic and therapeutic procedures. Female hormonal factors also may play a role in the aetiology of colorectal cancer and oral contraceptive use might exert a protective effect in the descending colon.

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