

antagonists block this effect (Cancer Res 62:4491–4498, 2002; Microvasc Res 72:3–11, 2006). Recently it was shown morphine activates breast cancer cell migration in vitro. (AACR 2007 abstract 1364). Despite their widespread chronic use in pain therapy and addiction medicine, clinical data evaluating the role of opiates and their antagonists on tumor growth or proliferation are sparse. The model of addiction treatment in Perth (Australia) provides an opportunity to assess the effects of these drugs. In Perth, standard treatment for heroin dependence is via the opiate agonist methadone maintenance (MM). However some patients have received an opiate antagonist via naltrexone implants (NI) under Australian special access guidelines.

Methods: Data were assembled using the Western Australian Data Linkage System (WADLS): cancer related admissions were identified via ICD diagnostic codes. All persons entering MM (n=658) or NI (n=376) for the first time in 2001–2002 were eligible. Following approval from the University of Western Australia, plus clearance to access WADLS, hospital admissions were identified for 573 MM and 361 NI cases (20 people receiving both MM and NI were then excluded). The MM group were significantly older than the NI group (31.3 years versus 28.1 years). The sex ratios were similar: NI 204 (60%) males, MM 329 (59% males), 199 (36% female), and 25 (5%) missing data.

Results: In 2439 person-years of follow-up there were 6 (1.1%) new cancer cases in the MM group [malignant neoplasm of bladder and skin, malignant leiomyoma of uterus, benign neoplasm of cervix and skin, essential (haemorrhagic) thrombocythaemia], and in 1539 p-y of follow-up, 4 (1.2%) in the NI group (melanocytic naevi (x3: 1 case also with benign lipomatous neoplasm), 1 malignant neoplasm of brain. There was 1 death (probable oesophageal cancer) with no prior cancer related hospital admissions from the MM group. There were no admissions for breast or colon cancer in either group.

Conclusion: The prevalence of new tumors was similar in the two groups. This study demonstrates the feasibility of utilizing this population and technique to identify the effects of chronic opiates and antagonists on development of malignancies. Continuing follow-up of the cohorts is planned.

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POSTER

Prophylactic oophorectomy for the prevention of breast and ovarian cancer in high risk mutation carriers: meta-analysis

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Background: Compared to the general population, BRCA1 and BRCA2 mutation carriers have significantly increased lifetime risks of breast and ovarian cancer. Prophylactic oophorectomy may serve a dual preventative function, by decreasing serum oestrogen and hence breast cancer incidence, while eliminating at-risk ovarian epithelium. **Materials and Methods:** The existing published literature (MEDLINE, EMBASE, CENTRAL) was systematically reviewed to assess the efficacy of prophylactic oophorectomy in reducing breast and ovarian cancer incidence, as well as mortality in BRCA1/2 mutation carriers. Individual data for 4154 carriers in five prospective cohort studies, one population based case-control study and one retrospective cohort study was analyzed. Analysis of additional data from unpublished sources has also been completed. Meta-analysis was performed using fixed and random effects models to derive pooled relative risks (RR) for outcomes of risk reduction in overall mortality, breast and ovarian cancer incidence.

Results: In BRCA1/2 mutation carriers, prophylactic oophorectomy significantly decreased the risk of ovarian cancer incidence (RR 0.24; 95% CI 0.14–0.41). A reduction in breast cancer incidence was also observed (RR 0.48; 95% CI 0.30–0.75). The relative risk of overall mortality was 0.64 (95% CI 0.35–1.20). Few studies measured cancer-specific mortality outcome. There was low evidence of heterogeneity between studies. Sensitivity analysis excluding small studies did not reveal a significant difference in pooled measures of effect. Influence analysis for each outcome examined did not disclose outlier studies.

The included studies had verified outcomes and strict follow-up, thus were less subject to bias. However, confounding by indication may occur in cohort studies. Concern about cardiovascular mortality post-oophorectomy was not supported by a large multi-centre study, and the complication rate was low. Ongoing follow-up after oophorectomy is advised due to a small risk of primary peritoneal cancer and for breast surveillance.

Conclusion: Given the strong and consistent evidence for risk reduction in breast and ovarian cancer with prophylactic oophorectomy, and the lack of reliable surveillance for ovarian cancer, this method of prevention should be considered in BRCA1/2 mutation carriers. Recommendations for further

research include studies comparing prophylactic oophorectomy to other prevention methods in BRCA1/2 mutation carriers.

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POSTER

Cancer screening in Greek diabetics. A comparative survey study

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Background: Diabetic patients seem to share the same if not higher possibility for developing various malignancies as compared to the general population. Nevertheless, data from the literature suggest that diabetics are frequently under screened. Unfortunately, these data are only referred to females and related to gynaecological tests (mammography and Pap smears), but nothing is known about screening implementation for other cancers for both genders. Our objective was to investigate the rate of screening practices among a sample of Hellenic diabetic patients as compared to non diabetic population.

Methods: 6447 Greek individuals (675 diabetics vs. 5772 non-diabetic) entered the study in the framework of PACMeR 02 cancer screening study. The screening rate for the cost-effective tests [Mammography (MRX), Pap test (PAP), Fecal Occult Blood Test (FOBT), sigmoidoscopy (SIG)] and not evidence-based exams [Clinical breast examination (CBE), breast ultrasound (USB) self breast examination (SBE) medical consultation included, PSA, digital rectal examination (DRE), transrectal ultrasound (TRUS)] was performed. Analysis was performed separately by gender.

Results: Diabetic women reported at higher rates that they never performed the sex-specific CBE, PAP, SBE (medical consultation included), SKIN tests (p < 0.001), MRX (p = 0.0012), and USB (p = 0.0385). Moreover non diabetics reported performing screening SBE, CBE, PAP and MRX a more frequently compared to diabetic women (p < 0.05). Prostate cancer screening rates were higher among diabetics individuals, but statistical differences were reached only for TRUS and DRE. Colorectal cancer screening was very low in both settings (screening rate <2%).

Conclusion: This study can serve as a reminder to primary care providers that diabetic patients and especially women seem to be underscreened and a more focused approach should be taken to include this sensitive target group in the screening activities.

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POSTER

Primary care physicians and evidence-based cancer screening practices in Greece

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Background: Routine integration of primary prevention into practice has been sub-optimal, resulting in lost opportunities to potentially decrease morbidity and mortality. Since major health care authorities recommend the evidence-based and cost effective screening practices we investigated the concordance of primary care providers' responses to current guidelines.

Methods: 366 primary-care physicians entered the study and answered a screening practice questionnaire. We explored the concordance of physicians' responses to recommended guidelines by analyzing questionnaires results for the optimal (guideline-based) prescription frequency of cost-effective tests: stool occult blood test (SOBT) good-practice = yearly or twice yearly, sigmoidoscopy good-practice = every 3–5 years, Pap test accepted-practice = yearly or twice yearly or every 2–3 years, mammography good-practice = every 1–2 years and clinical breast examination (CBE) good-practice = yearly or twice yearly, during targeted cancer activities.

Results: The prescription rates for cost effective tests were as follow: SOBT good-practice 36.61%, under-practice 9.56%; sigmoidoscopy good-practice 17.76%, over-practice 11.2%; Pap test accepted-practice 88.9%, under-practice 0.27%; mammography good-practice 74.32%, under-practice 10.1% and CBE good-practice 71.47%, under-practice 7.20%. SOBT, sigmoidoscopy, Pap test, mammography and CBE were considered not important at 53.83%, 71.04%, 10.93%, 15.57% and 21.33%, respectively.

Conclusions: Physicians seem well informed about mammography, CBE and Pap test application. Colorectal cancer seems to be not a favorable

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).