3525 POSTER

Chemotherapy-Related Thrombocytosis and Its Association With Thromboembolism (TE)

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Background: Chemotherapy such as antimetabolites increases the risk of thrombo-embolism (TE) in patients with cancer. Although thrombocytopenia is a known side effect of chemotherapy, antimetabolites-related thrombocytosis is uncommonly reported. The study aimed to determine the incidence of gemcitabine-related thrombocytosis and its risk associated with TE.
Methods: Medical records of 250 consecutive adult patients with a malignant disease who received gemcitabine alone or in combination with a platinum compound at the Saskatoon Cancer Center were reviewed. Patients with history of prior TE or with baseline thrombocytosis were excluded. A multivariate analysis was done to determine factors associated with TE.
Results: 220 eligible patients with median age of 63 yrs (range: 26−83) and M:F of 1:1 were identified. 209 (95%) patients had advanced malignancy; 92 (42%) had lung cancer and 130 (59%) had received prior chemotherapy. 151 (69%) patients received gemcitabine in combination with a platinum compound. Median number of cycles were 4 (1−8). 45 (20%) patients had white blood cell (WBC) count of $>11\times10^9$/L. Median platelets count prior to commencement of gemcitabine was 300×10^9/L (range: 44–449). 102 (46%) patients experienced thrombocytosis within 4 weeks of chemotherapy. Median post-gemcitabine platelet count in patients with thrombocytosis was 632×10^9/L (range: 457–1385). Median duration of thrombocytosis was 2 weeks (range: 0.5−10). 21 (10%) of 220 patients experienced a vascular event (venous, n = 14; arterial, n = 7) within 6 weeks of treatment. Median platelet count prior to a vascular event was 297×10^9/L (79–669). 9 of 102 (9%) patients with thrombocytosis experienced a vascular event compared with 12 of 118 (10%) patients without thrombocytosis (p=NS). On multivariate analysis luekocytosis (odd ratio [OR] 5.8 [95% CI: 2.1–15.8]) & comorbid illnesses (OR 4.1 [95% CI: 1.4–12.6]) were correlated with TE.
Conclusions: Although gemcitabine has been associated with an increased incidence of thrombocytosis, chemotherapy-related thrombocytosis does not increase the risk of TE in cancer patients. Of note elevated white blodd cells count and underlying comrobid illnesses increase the risk of TE in such patients.

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Social Determinants and Survival of Thyroid Cancer in Iran, 2001–2005

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Background: Thyroid cancer is the most common malignancy of endocrine system in the world. It is the 7th most common cancer in females, 14th in the males and the 11th most frequent cancer in both sexes in Iranian population. The present study aimed to determine survival of thyroid cancers in Iran based on sex, age group, pathology and geographical variation.
Methods: The patients selected for this study were 602 out of 5759 cases which were listed by cancer registry system between 2001 and 2005. Kaplan–Meier method was used for survival estimation and Cox's proportional hazard model used for calculating hazard ratio according to demographic and risk variables.
Results: The overall 5-year survival rate was 88.0%. There was significant difference between the survival of two sexes. The best and worse survival were in the age group under 40 and over 60 years old, respectively. The best survival was in papillary type, and anaplastic type belongs to worst survival. The best survival was in southwest (Khuzestan) area and the worse was estimated in northwest (Azarbaijan).
Conclusion: Size of young population and social determinants would be important effective elements for different survivals. These determinants should be in more consideration in managing chronic disease such as thyroid cancer.

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Correlation of GSTP1, GSTM1 and CYP1A1 Gene Polymorphisms and Lung Cancer Risk Among Smokers in a Greek Population

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Background: Lung cancer is the leading cause of cancer mortality worldwide and tobacco smoking has been established as its most important risk factor. Cigarette smoke contains several chemical compounds which are known carcinogens. Most of them need to be activated by phase I enzymes, such as cytochrome P450 (CYP), while phase II enzymes, such as glutathione S-transferases are responsible for the detoxification of activated forms. The present study intended to determine the role of CYP1A1, GSTP1 and GSTM1 gene polymorphisms in smoking-related lung cancer risk among Greeks.
Methods: One-hundred non-small and small cell lung cancer patients and 100 healthy controls with smoking history participated in the study. Basic demographic characteristics were well-balanced between the two groups. The participants were screened for the presence of the following polymorphisms: MspI (CYP1A1), Ile105Val (GSTP1) and GSTM1-null. Lung cancer risk was estimated as odds ratio (OR) and 95% confidence intervals (CI) using regression analysis.
Results: There was a statistically significant difference in genotypes GSTP1 Ile/Val (p = 0.004) and GSTM1-null (p = 0.011) between the two groups. Conversely, there was no difference in the presence of MspI polymorphism among the participants. Also, GSTP1 Ile/Val and GSTM1-null genotypes were associated with increased lung cancer risk. Furthermore, the combination of wild-type genotypes was shown to be correlated with reduced lung cancer risk by 69% (95% CI= 38−84%, p = 0.001).
Conclusions: The results of the study suggest that GSTP1 and GSTM1 gene polymorphisms contribute to increased lung cancer susceptibility in Greek smokers and that the combination of wild-type genotypes significantly reduces lung cancer risk.

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Prevalence of BRCA1 and BRCA2 Germline Mutations Among Pakistani Patients With Triple Negative Breast Cancer

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Background: Current criteria for *BRCA1/2* genetic testing rely primarily on family history of breast/ovarian cancer and early age of onset. In this study we assessed if the triple-negative breast cancer phenotype (negative for estrogen receptor, ER; progesterone receptor, PR and human epidermal growth factor receptor 2, HER2) can be used to identify candidates for *BRCA1/2* mutation testing in Pakistan.
Materials and Methods: Three hundred and sixty-seven unrelated women diagnosed with breast cancer below or equal 30 years of age (n = 169) or a family history of breast/ovarian cancer (n = 198) were ascertained at the SKMCH & RC from June 2001 to September 2010. Clinical and histopathological data and blood samples for DNA isolation were obtained from all patients. Comprehensive *BRCA1/2* mutation screening was performed using protein-truncation test, single-strand conformational polymorphism analysis, and denaturing high-performance liquid chromatography analysis followed by DNA sequencing of variants detected in these assays.
Results: On the basis of clinical ER, PR, and HER2 testing 141 (38.4%) out of 367 women presented with triple-negative breast cancer. Forty-eight of them (34%) carried a deleterious mutation, 45 in *BRCA1* and three in *BRCA2*. In the group of patients with early-onset triple-negative breast cancer 9/66 (13.6%) carried a *BRCA1* mutation. Among the familial breast/ovarian cancer patients 39/75 (52%) carried a mutation, 36 in *BRCA1* and three in *BRCA2.* Triple-negative breast cancer in *BRCA1/2* carriers and non-carriers were diagnosed at different median ages of diagnosis, 30 years (range 22−54) and 28 years (range 19−67),