P2-011 BSTB: Cancer Genetics Posters, Tue, Sept 4

Occurrence and clinical significance of hOGG1 Ser326Cys polymorphism in NSCLC patients from Northern Poland

Drozdowska, Adrianna[1] Szymanowska, Amelia[1] Jassem, Ewa[1] Ratajska, Magdalena[2] Konopa, Krzysztof[3] Rzyman, Witold[4] Kobierska-Gulida, Grazyna[5] Limon, Janusz[2] Jassem, Jacek[3]

[1] Department of Allergology, Medical University of Gdañsk, Gdañsk, Poland [2] Department of Biology and Genetics, Medical University of Gdañsk, Gdañsk, Poland [3] Department of Oncology and Radiotherapy, Medical University of Gdañsk, Gdañsk, Poland [4] Department of Thoracic Surgery, Medical University of Gdañsk, Gdañsk, Poland [5] Department of Pathology, Medical University of Gdañsk, Gdañsk, Poland

Background: hOGG1 gene plays an important role in base excision repair system. It encodes a glycosylase that excises 8-hydroxyguanine (OH8Gua) from oxidatively-damaged nucleotides. OH8Gua is a major, highly mutagenic form of oxidative DNA damage induced by reactive free radicals present in tobacco smoke. Previous studies showed that the presence of homologous 326Cys hOGG1 gene variants was associated with both a lower hOGG1 repair activity and an increased risk of lung cancer (especially in heavy smokers). The aim of this study was to assess the frequency of hOGG1 gene polymorphic variants in codon 326 of exon 7 in NSCLC patients from Northern Poland and to assess the association between polymorphisms of hOGG1 gene and NSCLC risk.

Methods: Study group included 162 patients (36 females and 126 males), aged from 42 to 78 years (median 63) who underwent complete pulmonary resection between 1996 and 2000. The control group consisted of 485 healthy subjects with no evidence of lung cancer or other neoplasm. hOGG1 Ser326Cys polymorphism was evaluated by ASA-PCR method in DNA isolated from lymphocytes. Samples were collected from patients before surgery and stored at -80ºC.

Result: 326Cys carriers vs Ser/Ser variant were significantly more common in the NSCLC group than in controls (41,4% vs 30,7% respectively; p=0,0129).

Conclusion: The presence of 326Cys variant is associated with an increased risk of lung cancer.

P2-012 BSTB: Cancer Genetics Posters, Tue, Sept 4

Analysis of XPD gene Lys751Gln polymorphism as predisposing factor for non-small cell lung cancer (NSCLC) development

Szymanowska, Amelia[1] Jassem, Ewa[1] Zoechbauer-Mueller, Sabine[2] Konopa, Krzysztof[3] Rzyman, Witold[4] Kobierska-Gulida, Grazyna[5] Zielinski, Christoph C.[6] Jassem, Jacek[3]

[1] Dept. of Allergology, Medical University of Gdansk, Poland, Gdansk, Poland [2] Division of Oncology, Dept. of Medicine I, University of Vienna, Austria, Vienna, Austria [3] Dept. of Oncology and Radiotherapy, Medical University of Gdansk, Poland, Gdansk, Poland [4] Dept. of Thoracic Surgery, Medical University of Gdansk, Poland, Gdansk, Poland [5] Dept. of Pathology, Medical University of Gdansk, Poland, Gdansk, Poland [6] Division of Oncology, Department of Medicine I, University of Vienna, Austria, Vienna, Austria

Background: The XPD gene is involved in nucleotide excision repair of DNA by opening the DNA around the damage. It also takes part in the initiation of RNA transcription by RNA polymerase II. The Lys751Gln polymorphism of this gene is suspected to be a predisposing factor for NSCLC development as polymorphic variants of this gene have different repair efficiency. The aim of this study was to establish the frequencies of the polymorphic XPD Lys751Gln genotypes in Polish population and to assess the associated risk of NSCLC development.

Materials and Methods: The study group included 162 NSCLC patients (13 females and 149 males) who underwent curative pulmonary resection between the year 1996 and 2000. The control group included 485 healthy subjects. DNA was extracted from frozen blood samples. XPD Lys751Gln polymorphism was evaluated by PCR-RFLP based methods.

Results: The frequencies of XPD gene Lys751Gln genotypes (Lys/Lys, Lys/Gln, Gln/Gln) in NSCLC patients were 38.3%, 43.2% and 18.5%, respectively and 37.1%, 46.2% and 16.7% respectively in healthy controls. The proportion of Gln allele carriers vs Lys homozygotes was insignificantly lower in the NSCLC group than in controls (61.7% vs 62.9%, p=0.86).

Conclusions: These results indicate that XPD (gln751 variant) polymorphism does not carry increased risk of NSCLC development.

P2-013 BSTB: Cancer Genetics Posters, Tue, Sept 4

Analysis of oncoprotein in resected NSCLC: correlation with gender, histological subtypes, and clinical outcome

Jian, Hong[1] Liao, Meilin[1] Wan, Huanying[2]

[1] ShangHai Chest Hospital, ShangHai Lung Tumor Clinic Center, ShangHai, China [2] ShangHai RuiJin Hospital, ShangHai, China

Objective: The mortality of lung cancer in Chinese women has increased significantly in the past few decades despite the fact that women consumed fewer cigarettes. The most common pathological type of lung carcinoma in Chinese women is adenocarcinoma. Emerging evidence indicated that interaction between environmental and genetic factors plays an important role. The purpose of this study was to investigate the expression of oncoproteins such as EGFR, VEGF, p53, P21and CerbB2 in resectable NSCLC. Furthermore, the relationship between expression of oncoproteins and gender, histological subtypes, and clinical outcome was analyzed.

Methods: Immunohistochemical technique was used to detect the expressions of oncoproteins such as EGFR, VEGF, p53, P21and CerbB2 in 261 completely resectable lung cancer patients. All the patients have received systematic examination to determine the clinical stage from 2005.6 to 2005.12. The pathological type was confirmed again. Immunohistochemical staining was used to mark the pathological section and the expression of oncoproteins was defined that staining cells greater than 10% of field. Data regarding demographics, smoking, histology, family history of cancer, the symptoms in the diagnosis, clinic type, the diameter of lesions, stage, extent of operations and FVC, FEV1, MVV were obtained. SPSS 10.0 was used for statistical analysis; We analyze the clinical characteristics and the expression of oncoproteins of the subjects with descriptive statistics; X2 and independent samples test were tested the difference of gender, clinical feature; Logistic Regression models were used to analyze the correlations between expression of oncoproteins and clinical features. P<0.05 represents the difference is significant.

Results: There were 136 men (51.7%) and 125 women (48.3%). Women were found to be more likely to have adenocarcinoma with peripheral type. However, squamous-carcinoma with more smoking and advanced stage were predominant in men (p=0.000). The mean diameter of lesions was smaller in women than that in men (p=0.000). The mean data of FVC%, FEV1%, MVV% in women was better compared with that in men (p=0.000). The complete resec-