of the tumor region on the pre-treatment CT scan. The AUC of the ROC curve of the final model on the validation set was 0.77 (95% CI, 0.69−0.85).
Conclusion: Our results indicate that meaningful and reliable image traits extracted from the pre-treatment CT scan can predict patient outcome after treatment. The prediction of two year survival with our approach may be an important tool for the analyst in oncology to extract informative CT image traits that may assist them in the decision of treatment choice, allowing them with the possibility of treatment individualization.

9059 POSTER

8473T>C COX-2 polymorphism and susceptibility for lung cancer: a strategy for individualised chemoprevention

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Background: Lung cancer (LC) presents a major health problem in the world, being the most common cause of death from cancer in 2002. Cyclooxygenase-2 (COX-2), normally undetected in physiological conditions, is promptly triggered under inflammatory and tumor promotion settings, contributing to key steps of carcinogenesis. Up-regulation of COX-2 is believed to be an early event in lung carcinogenesis. It is known to be induced by cigarette smoke condensate *in vitro* and by the tobacco-specific carcinogen nitrosamine 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanone (NNK) in mice. Furthermore, several epidemiological studies point to a lung cancer chemopreventive effect of non-steroidal anti-inflammatory drugs (NSAIDs), known to suppress COXs enzymes. The 8473T>C *COX-2* polymorphism in an AU-rich elements region (3′UTR) might contribute to cancer development by influencing *COX-2* mRNA stability. The aim of our study was to assess the influence of this polymorphism in the development of LC.
Material and Methods: This case-control study gathered 1069 individuals: 718 healthy individuals and 351 patients with histopathologically confirmed lung cancer, from the Northern region of Portugal. The 8473T>C *COX-2* polymorphism genotypes were determined by Real-Time PCR allelic discrimination technique.
Results: We found no statistically significant differences in the distribution of the 8473T>C polymorphism genotypes between LC cases and controls ($P = 0.122$). However, in a stratified analysis by histologycal type and gender we observed an increased risk for epidermoid non-small cell lung cancer (OR = 1.47; 95% CI:1.00−2.15) and more interesting, males C allele carriers revealed had an higher susceptibility for epidermoid non-small cell lung cancer (OR = 1.55; 95% CI:1.03−2.33).
Conclusion: The 8473T>C COX-2 polymorphism appears to modulate the genetic susceptibility for epidermoid non-small cell lung cancer, especially in males. This genetic profiling based higher-risk group definition may help shift the balance between and benefits for the use of COX-2 inhibitors in chemoprevention that is currently hampered by the adverse gastrointestinal and cardiovascular side effects.

9060 POSTER

Cyclin D1 and Non-Small cell lung cancer − a role of CCND1 gene variants in lung carcinogenesis

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Background: In most industrialised countries, lung cancer is the main cause of cancer death and has a poor prognosis. Non-small cell lung carcinoma (NSCLC) accounts for approximately 75% of cases. Experimental evidence suggests that lung cancer development and progression can be linked to an increased proliferation rate. Cyclin D1 (CCND1) has been described as having a pivotal role in the carcinogenesis of lung carcinoma. CCND1 is a key regulator of the G1/S phase of the cell cycle and its altered activity is associated with the development of several human cancers.
Patients and Methods: We analysed the A870G *CCND1* polymorphism by PCR-RFLP in genomic DNA isolated from peripheral blood of 1535 individuals including, 297 cases of NSCLC and 1238 healthy individuals. Statistical analysis was performed using the computer software SPSS for Windows (version 13.0). Chi-square analysis was used to compare categorical variables and a 5% level of significance was used in the analysis. The odds ratio (OR) and its 95% confidence interval (CI) were calculated as a measurement of the association between *CCND1* genotypes and cancer risk. Logistic regression analysis was used to calculate the adjusted OR (aOR) and 95% CI for the influence of *CCND1* genotypes in the risk of cancer.
Results: Our results demonstrate that patients carrying the *GG CCND1* genotype present an increased risk for the development of NSCLC (OR = 1.57, 95% CI 1.17−2.10, $P = 0.003$). This genetic susceptibility was even more evident when considering the epidermoid histological type (OR = 1.84, 95% CI 1.30−4.07, $P = 0.005$). Multivariate logistic regression analysis adjusted by gender, age and tobacco smoke confirmed this association, indicating that individuals carrying two G-alleles present an increased risk of 2.7-fold for the development of lung cancer (aOR = 2.68; 95% CI 1.54−4.69; $P = 0.001$.).
Conclusions: In conclusion, our results may be important in the definition of a biological predictive profile for the development of NSCLC within our population. Furthermore, the knowledge of the mechanisms involved in NSCLC carcinogenesis may help to identify targets for the development of chemoprevention or therapeutic strategies.

9061 POSTER

Impact of zoledronic acid on follow-up duration in lung cancer patients with bone metastasis in a US managed care plan

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Background: For lung cancer patients with bone metastasis, skeletal complications including fractures are common and cause considerable morbidity, reduce quality of life, and reduce survival. This study was designed to assess the impact of zoledronic acid (ZOL), an intravenous bisphosphonate (IVBP), in patients with solid tumor cancers, including lung cancer.
Methods: A claims-based analysis using commercial and Medicare Advantage data from over 45 US managed care plans was used to evaluate the relation between treatment persistency and follow-up duration in patients treated with ZOL, compared with those who were not (non-IVBP). A secondary analysis assessing the effect of time to treatment with ZOL will also be conducted. Persistency was defined as the absence of a >45 day gap between ZOL treatments. Index date was set at bone metastasis or first ZOL fill. Age 18+ with a lung cancer and a bone metastasis diagnosis between 01/01/01 and 12/31/06, continuous enrollment in the health plan for 6 months pre-index, with no evidence of bone metastasis or IVBP in the pre-index period was required. Patients were followed until disenrollment (including mortality) or end of study (12/31/07). ANOVA tests were used to compare follow-up duration, a proxy for survival, between ZOL persistency groups.
Results: The study sample included 10,513 lung cancer patients; 1,729 in the ZOL cohort and 8,784 in the non-IVBP cohort. Mean age was 62.4 years ($\pm$11.24) and 59.0% of patients were male. 78.5% of patients were commercial enrollees. Mean Charlson was 4.67($\pm$2.95). Treatment persistency groups included in the analysis were 31−90 days (N = 475), 91−180 days (N = 239), 181−365 days (N = 133), $\geqslant$366 days (N = 44). Persistent use of ZOL was associated with longer follow-up duration. There was a statistically significant difference ($p < 0.001$) in the unadjusted mean follow-up duration for the non-IVBP cohort, 216 days ($\pm$304), compared with 236 ($\pm$233; 31−90 days persistency group); 330 ($\pm$259; 91−180 days); 425 ($\pm$237; 181−365 days); and 729 days ($\pm$418; $\geqslant$366 days).
Conclusions: This study showed that in cancer patients with lung cancer and bone metastasis, patients with longer periods of persistence with ZOL achieved the better outcomes in terms of longer follow-up duration in the health plans.

9062 POSTER

The value of day 8 blood count in treatment decisions when using oral vinorelbine in non-small cell lung cancer (NSCLC) patients

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Background: Chemotherapy regimens most used in our NSCLC patients are intravenous (IV) cisplatin/carboplatin and IV/oral vinorelbine on day (d) 1 and oral vinorelbine on d8, 3 weekly, and oral vinorelbine monotherapy on d1 and d8 for elderly or performance status (PS) 2 patients. As per local policy, d8 oral vinorelbine is only given after clinical and full blood count (FBC) review. This is inconvenient for patients and also results in considerable clinical time spent. We aimed retrospectively review the relevance of FBC result in d8 vinorelbine therapeutic decision making.
Material and Methods: This audit was approved by our Audit Committee. We reviewed the clinical files of the last 100 NSCLC patients treated with vinorelbine and each patient's first two courses were identified. Episodes where d8 vinorelbine was omitted, delayed, or given with dose reduction, and reasons for these actions were recorded.