chemotherapy. If confirmed on other patient populations, our findings should significantly advance the clinical management of patients with completely resected NSCLC.

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D3-04 Pharmacogenomics & Biomarker in Cytotoxic Chemotherapy, Thu, 12:30 - 14:15

MAP4/OP18 mRNA expression predicts progression in patients treated with vinorelbine plus carboplatin in advanced lung cancer patients in a multicenter trial

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Background: Non-small-cell lung cancer (NSCLC) patients with locally advanced or metastatic disease at the time of diagnosis show marginal response to chemotherapy in terms of tumor shrinkage, time to progression and median survival. MAP4 and stathmin have been previously reported as potential markers of resistance to treatment based on microtubule-destabilizing agents.

Methods: In this multicenter study, we have used quantitative PCR to analyze the expression of MAP4, stathmin, beta-tubulin III, BRCA1 and ERCC1 using mRNA isolated from peripheral blood samples of 51 non-small-cell lung cancer patients treated with vinorelbine/carboplatin.

Results: In a preliminary set, 46 patients with stage IIIB and IV were analyzed. Lower levels of MAP4/OP18 mRNA expression are statistically associated with a response to vinorelbine-based treatment (p=0.029). This significant relationship is maintained in a second analysis after 3rd cycle of treatment (p=0.032). Higher levels of MAP4/OP18 were associated with a lower TTP (p=0.05).

Conclusions: Our preliminary results suggest that the ratio MAP4/OP18 may be a good predictor of response for NSCLC patients treated with vinorelbine-based chemotherapy.

D3-05 Pharmacogenomics & Biomarker in Cytotoxic Chemotherapy, Thu, 12:30 - 14:15

Prediction of best objective response and survival to the first-line chemotherapy in advanced non-small cell lung cancer by 18FDG-PET

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Objective: To prospectively evaluate the use of positron emission tomography (PET) with the glucose analog 18-fluorodeoxyglucose (18FDG) to predict best objective response and survival after the first-line chemotherapy in patients with advanced non-small cell lung cancer (NSCLC).

Methods: Patients with advanced NSCLC were prospectively enrolled into this study to undergo platinum-based doublet chemotherapy. Patients were studied by 18FDG-PET before and after the first two cycles of chemotherapy. A reduction of tumor 18FDG uptake by more than 30% as assessed by standardized uptake value(SUV) was used as a criterion for a metabolic response. Compare RECIST response with 18FDG-PET metabolic response by Measure of Agreement Kappa test. Survival in patients with or without a metabolic response was compared by the log-rank test. Statistical computations were performed with SPSS13.0.

Results: 46 patients with advanced NSCLC (2 cases with wet stage IIIB and 44 cases with stageIV) were included in the study. There was a close correlation between metabolic response and best objective response to the first-line chemotherapy according to RECIST, P<0.001; Sensitivity, specificity, accuracy, prediction of positive value and prediction of negative value for prediction of best objective response were 95%, 65%, 78%, 69% and 94% respectively. By the end of February 28, 2007, duration of follow-up had been ranged from 1.8 months to 29.7 months, median survival time for metabolic responders was 13.70 months, 95% CI (9.08-13.32), and that for metabolic non-responders was 12.00 months, 95% CI (6.58-17.43), P>0.05; there is no difference in overall survival between metabolic responders and metabolic non-responders, P>0.05.

Conclusions: Reduction of SUV in 18FDG-PET after two-cycle chemotherapy for advanced NSCLC is closely correlated with best objective response. However, up till now, we have not yet observed significant difference in median survival time and overall survival time between metabolic responders and metabolic non-responders.

D3-06 Pharmacogenomics & Biomarker in Cytotoxic Chemotherapy, Thu, 12:30 - 14:15

Correlation of cytidine deaminase and DNA repair genes polymorphisms with response and survival in gemcitabine/cisplatin treated advanced non-small-cell lung cancer patients

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Background: The treatment of non-small-cell lung cancer (NSCLC) has reached a plateau of effectiveness, but the selection of patients according to key genetic characteristics may help to tailor chemotherapy and optimise the treatment increasing response rates and survival. Polymorphisms within the Xeroderma Pigmentosum Group D (XPD), Excision Repair Cross-Complementing 1 (ERCC1) and Cytidine Deaminase (CDA) genes have been associated with alterations in enzymatic activity and may change sensitivity to the widely used platinum-based and gemcitabine chemotherapy regimens. We investigated the correlation between selected single nucleotide polymorphisms (SNPs) of these genes and the activity and efficacy of chemotherapy.

Methods: Seventy-eight chemotherapy-naive, advanced NSCLC patients were enrolled in the study; 52 were treated with cisplatin/gemcitabine and 26, aged > 70 years, with gemcitabine alone. Median age was 66 years (range 44-81). Association between XPD Asp312Asn and Lys751Gln, ERCC1 C118T and CDA Lys27Gln SNPs and treatment response, toxicity, time to progression (TTP) and overall survival (OS) was estimated using Kaplan-Meier method. Log-rank test and Cox’s proportional model. SNPs were analyzed by the ABI PRISM 7900HT Sequence Detection System using TaqMan® probe-based assay in DNA obtained from peripheral blood samples.