Table 1.. Nonhemotological toxicity

DL	NP	Fatigue				Leukocytes				Esophagitis				Nausea				Vomiting				Cough				Platelets				Pneumonitis			
		Grade (NCI Toxicity criteria 3.0)																															
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	2	3	4	2	1	2	3	4
1	6	4	2	-	-	-	4	1	1	4	2	-	-	2	1	-	-	2	1	-	-	5	1	-	-	1	-	-	1	-	1	-	-
2	3	2	1	-	-	1	1	1	-	2	1	-	-	2	-	-	-	2	-	-	-	2	1	-	-	-	-	-	-	-	-	-	-

DL: Dose level; **NP:** number of patients

P2-223 **NSCLC: Combined Modality Therapy Posters, Tue, Sept 4**

Analysis of clinical and dosimetric factors associated with severe radiation pneumonitis in locally advanced Non-Small-Cell-Lung-Cancer patients treated with concurrent chemotherapy and intensity-modulated radiotherapy (IMRT)

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Purpose: To retrospectively evaluate clinical and dosimetric factors associated with severe (grade≥3) radiation pneumonitis in patients after concurrent chemotherapy and intensity-modulated radiotherapy (IMRT).

Methods: We retrospectively analyzed 94 locally advanced NSCLC patients treated with concurrent chemotherapy and IMRT between May 2005 and September 2006. Radiation pneumonitis was graded according to Common Terminology Criteria for Adverse Events version 3.0. The following clinical parameters were considered: gender, age, smoking and diabetes history, history of chronic obstructive pulmonary disease (COPD), induction chemotherapy, concurrent chemotherapy regimens, performance status and forced expiratory volume in 1 second (FEV1). Dosimetric factors including mean lung dose (Dmean), rV5-V60 relative volumes of lung receiving more than a threshold dose D of radiation (rVD), where values of D considered were 5˚C 60 Gy in increments of 5 Gy), prescribed dose (63GY/35f/7w vs 60Gy/30f/6w), and normal tissue complication probability (NTCP) values were analysed. DVHs data and NTCP values were collected for both lungs considered as a parallel organ. Pearson Chi-Square test was performed to compare clinical parameters between patients who developed severe RP and those who did not. Univariate and multivariate logistic regression analyses were performed to evaluate data for association between clinical and dosimetric factors and severe RP. The study was approved by the institutional reviewboard.

Results: Of 94 patients, 11 (11.7%) develop severe (grade≥3) radiation pneumonitis; 6 (6.4%), grade 3; 2(2.1%), grade 4; and 3 (3.2%)grade 5. Univariate analyses show that Sex, age (≤60vs>60), smoking and diabetes history, induction chemotherapy, concurrent chemotherapy regimens, PS(≤70vs>70) and prescribed dose did not significantly differ between patients who developed severe RP and those who did not. However, NTCP, MLD, rV5-V60, COPD and FEV1 were associated with severe RP ($p<0.05$). In multivariate analysis, NTCP ($p=0.001$) and rV10($p=0.015$) was the most significant factors associated with severe (grade≥3) radiation pneumonitis. The incidences of Grade≥3 pneumonitis in the group with NTCP>4.2% and NTCP <4.2% were 43.5% and 1.4%, respectively ($p<0.01$). The incidences of Grade≥3 pneumonitis in the group with rV10 <51.2% and rV10 >51.2% were 5.6% and 30.4%, respectively ($p<0.01$).

Conclusions: NTCP and rV10 is useful indicator of risk for development of severe (grade≥3) radiation pneumonitis in NSCLC patients after concurrent chemotherapy and intensity -modulated radiotherapy (IMRT).

NSCLC: Cytotoxic Chemotherapy

P2-224 **NSCLC: Cytotoxic Chemotherapy Posters, Tue, Sept 4**

A multicenter phase II randomized study of paclitaxel (P) and carboplatin (C) versus oral vinorelbine (oV) and carboplatin (C) as second-line treatment in patients with non-small cell lung cancer (NSCLC) pretreated with non-platinum based chemotherapy

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Background: Limited data is available on the activity of platinum-containing doublets as second-line treatment of NSCLC patients who received non-patinum based first-line therapy. We performed a multicenter randomized phase II trial to compare PC and oVC in NSCLC patients (pts) pretreated with first-line docetaxel (D)/gemcitabine (G).

Methods: Pts with stage IIIB/IV NSCLC and adequate performance status (PS), haematological, hepatic, cardiac and renal function pretreated with DG were eligible. Pts received P 140 mg/m^2 combined with C AUC3 or oV 45 mg/m^2 combined with C AUC3 on days 1 and 15 of a 30-day cycle. Stratification was done for PS and response to prior treatment. Primary endpoint was response rate (RR) and secondary endpoints were time to progression (TTP), survival and toxicity.

Results: 140 pts were randomized to PC (n= 65) or oVG (n= 75). Median age was 60 yrs for both arms (range, 39-74 and 38-79, respectively) and PS was 0-1 in 91% and 85%, for PC and oVC, respectively. In an intension-to-treat analysis, significantly more responders were observed in the PC arm with an overall RR of 19.4% vs 4.2% ($p=0.006$). After a median follow up time of 5.4 (range 0.5-30) months, median TTP was 3.2 (range, 0.5-23.7) vs 2.8 (range, 0.5-18.5) for PC and oVC, respectively ($p=0.150$). Median overall survival was 6.3 (range, 0.5–26.2) vs 6.1 (range, 0.5–30) months and 1-yr survival was 29.4% vs 27.5% for PC and oVC, respectively ($p=0.586$). The two arms exhibited similar rates of grade 3 and 4 toxicity.

Conclusions: A higher response rate that was not translated to a survival benefit was recorded for the PC arm. No significant differences in toxicity rates were observed.

P2-225 **NSCLC: Cytotoxic Chemotherapy Posters, Tue, Sept 4**

A phase II trial of weekly cisplatin and docetaxel in advanced non-small cell lung cancer (NSCLC)

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Background: Every 3-week cisplatin doublets used to treat advanced NSCLC carry a significant risk of renal and other toxicities and can

be difficult for patients with co-morbidities. To reduce these toxicities, we conducted a phase II study to evaluate the efficacy and toxicity of weekly cisplatin and docetaxel in advanced NSCLC.

Methods: Eligibility included patients with advanced or recurrent NSCLC, ECOG PS of 0-1, and no prior chemotherapy for metastatic disease. This Cancer Institute of New Jersey network, single stage phase II clinical trial was designed to give 3 weekly doses of cisplatin at 25 mg/m^2 and docetaxel at 35 mg/m^2, followed by 1 week of rest, for a total of 6 cycles of therapy. Toxicity was monitored weekly, and disease evaluation was performed every 2 cycles. The primary endpoint was response rate (RR); secondary endpoints included time to progression (TTP), median and 1-year survival.

Results: From 12/03 to 03/07, 38 patients were enrolled so far. The median age of patients is 63 (range 47-78), the majority is white (n=35), 31 have stage IV disease, and almost half (n=18) are women. Fifteen have an ECOG PS=0 and 23 with PS=1. Histologic subtypes are: adenocarcinoma (n=26), NSCLC NOS (n=7), squamous (n=5). Fourteen patients received ? 4 cycles of therapy; median number of cycles delivered is 2.4. Reasons for treatment discontinuation include completion of therapy (n=7), progression of disease (n=17), adverse events (n=8), and patient preference (n=4). Two patients continue on therapy at this time. No complete responses were yet observed; 8 patients (21%) achieved a partial response; 10 patients had stable disease, 10 patients progressed, 8 came off study before first disease evaluation, and 2 have not yet had disease evaluation. Median TTP was 3.8 months (mo) (95% CI 2.0, 4.7), median survival is 8.7 mo (95% CI 5.6,16.2) and 1-year survival is 40.2% (95% CI 20.9, 58.8). Most toxicities were mild but also included neutropenia (grade 3, n=1; grade 4, n=1), neutropenic fever (n=1), renal toxicity (grade 3, n=2), nausea (grade 3, n=1), fatigue (grade 3, n=3), diarrhea (grade 3, n=4) and metabolic abnormalities (grade 3, n=3).

Conclusion: Weekly cisplatin and docetaxel is well tolerated with a low incidence of toxicity and demonstrates activity similar to every 3-week treatment in patients with advanced NSCLC.

P2-226 **NSCLC: Cytotoxic Chemotherapy Posters, Tue, Sept 4**

The Portuguese experience with pemetrexed (ALIMTA) in second line treatment of non-small cell lung cancer

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On behalf of the Portuguese Lung Cancer Study Group

Background: Unitl 2004, docetaxel in monotherapy was the standard for second-line treatment of non-small cell lung cancer (NSCLC). Pemetrexed (P), an multi-target antifolate, with vitamin supplementation, has shown similar activity in this setting with a better adverse event profile (Hanna N et al, J Clin Oncol 2004;22:1589-1597). In Portugal, it was introduced in October of 2004 for second-line monotherapy. We have carried out a retrospective analysis of patients who received P for second-line NSCLC in Portugal from October 2004 to December 2006.

Methods: Data were collected retrospectively from the records of patients (pts) enrolled in centers participating in the Portuguese Lung Cancer Study Group (GECP). The pts had locally advanced or metastatic NSCLC and failed first-line chemotherapy. They received P (500 mg/m^2 on a three-weekly schedule with vitamin supplementation). Objective response (OR; complete [CR] or partial [PR] response) was evaluated using RECIST and safety assessed using serious or non-serious adverse events (SAEs/AEs).

Results: By December 2006, 19 GECP centers had enrolled 244 pts who had received P for ≥1 cycle, and were considered evaluable for both objective response and safety. Demography: male/female, 175/69; median age, 57.0 years (range 20-81); smoking status, y/ex/n, 116/57/71 adenocarcinoma/squamous-cell carcinoma/other histology, 141/72/31; prior chemotherapy, platin plus gemcitabine/paclitaxel/vinorelbine/docetaxel, 152/37/30/19; mean number of cycles in 1st line, 4.8 (range 1-8); disease control (OR + stable disease [SD]) was observed in 170 (61.0%) pts: 7 CR, 79 PR and 84 SD; mean time to progression (TTP) 8.07 months. P mean number of cycles in 2nd line, 4.1 (range1-15); disease control in 209 evaluable pts was observed in 116 (55.5%): 2 CR, 45 PR and 69 SD; mean TTP 4.70 months. The majority of AEs were grade 3 anemia (15 pts) and neutropenia (18 pts). The mean overall survival was 17.27 months.

Conclusions: Our retrospective analysis has observed a similar disease control rate with P in 2nd line (55.5%), and TTP (4.7 months) in our current unselected population to that published in the literature. P is an option for second-line NSCLC with a good tolerability.

P2-227 **NSCLC: Cytotoxic Chemotherapy Posters, Tue, Sept 4**

A retrospective study between docetaxel and pemetrexed for second line treatment of non-small cell lung cancer in a single institution

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Background: Docetaxel (D) and Pemetrexed (P) are two options for the second-line treatment of non small-cell lung cancer (NSCLC), with similar response rates and overall survivals but different toxicity (Hanna N et al, J Clin Oncol 2004;22:1589-1597). P was introduced in Portugal in October 2004. The authors carried out a retrospective study of patients (pts) diagnosed with NSCLC treated in 2nd line with D or P at Portuguese Institute of Oncology - Porto Centre (IPO-Porto), Portugal.

Methods: We made a retrospective review of the pt clinical files with NSCLC treated in second-line with D or P between December 2003 and December 2006 at IPO-Porto. The primary objective was the evaluation of safety assessed using serious or non-serious adverse events. Secondary objectives were to assess time to progression (TTP) and overall survival (OS) between the two drugs on that unselected population.

Results: Of 96 evaluated pts who received 2nd line chemotherapy (CT), 78% were male. Median age at diagnosis was 63 years (range: 29-81); 38% were adenocarcinomas, 58% squamous cell carcinoma and 4% were large cell carcinomas; 99% had a performance status ECOG 0. At diagnosis, 50% had metastasis in at least one site. All pts received platin first line based CT. At 2nd line treatment, 77 (80%) received D and 19 (20%) P. Mean number of cycles received was 5.6 for D and 4.3 for P. The sum of grade III toxicities were observed on 27 pts on D and 7 on P, and grade IV toxicities were observed on 10 pts on D and none on P. Incidence of grade III anaemia was 12% on D and 11%