3D-treatment plan with DVHs for CTV and lung was obtained. Twenty-three pts had chemo and 14 hormone therapy. Pre-RT workup included HRCT and lung function tests. HRCT was performed by spiral CT with contiguous slices, 10 mm interval, 1 mm thickness from apex to diaphragm. Lung changes were scored 0-3. Lung function tests were: forced vital capacity (FVC), forced expiratory volume in 1 second (FEV-1), total lung capacity (TLC), forced expiratory flow at 25% of vital capacity (FEF-25) and diffusion capacity (DLCO). Plethysmography with constant volume was used. Tests were repeated 3 and 9 months after RT in 41/45 pts. HRCT slices were matched with RT-plan images.

**Results:** Pre-RT HRCT did not show any lung abnormality. Three months after RT, HRCT showed fibrosis in RT volume in 31/41 cases (76%): 44% grade I, 25% grade II, 7% grade III. At 9 months, fibrosis was seen in 32/41 pts (78%): 59% grade I, 19% grade II, 0% grade III. None developed clinical symptoms. Grade of fibrosis at 3 and 9 months correlated with RT volume (p=0.0096 and 0.0003 respectively). Changes at 3 and 9 months correlated to the dose of 25 Gy to volume >= 107 cm3 and 151 cm3 respectively. Pre-RT lung function tests were normal. All values decreased at 3 months: FVC and FEV-1 without and FEF-25 and DLCO with significance (p=0.029 and p=0.00006). At 9 months, FVC and FEV-1 showed recovery and FEF-25 and DLCO remained abnormal (p=0.026 and 0.0001 respectively).

**Conclusion:** This study confirms that RT does not induce clinically relevant lung injuries. HRCT and functional tests are able to detect subclinical changes: subpleuric fibrosis and reduction of functioning of bronchiole (FEF-25) and alveolar/capillary membrane (DLCO). Fibrosis correlates with volume receiving > 25 Gy. Age, smoke, chemotherapy, and hormone therapy were not prognostic factors.

923 POSTER

## Clinical outcomes of palliative interventions for bowel obstructions in patients suffering from peritoneal carcinomatosis from non-gynecological cancer

E. Thanopoulou[1], A. Stamatelopoulos[2], G. Karavitis[3], G. Lazaridis[4], N. Sarantzis[4], K. Vlachos[5], D. Vassilakos[6], M. Arnaouti[7], G. Economou[2]. *[1] Athinaion B, Medical Oncology, Athens, Greece; [2] S. Sabbas, Surgical Oncology, Athens, Greece; [3] 492 Gen. Mil. Hospital, General Surgery, Alexandroupoli, Greece; [4] AHEPA Hospital, 1st Univ. General Surgery, Thessaloniki, Greece; [5] Dist. Reg. Hospital, General Surgery, Samos, Greece; [6] AHEPA Hospital, Anesthisiology, Thessaloniki, Greece; [7] S. Sabbas, Histopathology lab., Athens, Greece*

**Background:** The main aim of our study was to evaluate the clinicopathologic factors that predict outcomes after palliative operations for malignant bowel obstruction (MBO). This situation secondary to peritoneal carcinomatosis carries a poor prognosis.

**Material and Methods:** From four different surgical centers, data on patients undergoing laparatomy for palliation of gastrointestinal MBO, between 1998 and 2002 were retrospectively collected. As successful palliation was defined the ability to tolerate solid food. (TSF).

**Results:** 178 patients underwent operative treatment. In 57 pts, MBO was the first presentation of the disease; for the others, the median disease-free interval was 16 months. The complication rate was about 42.5% and the postoperative mortality was 16%. The median length of stay was 14 days. 79 pts (44.8%) were discharged from the hospital on a regular diet. 137 pts (76.6%) continued to eat until their last follow-up. Median survival was 90 days. Univariate factors for longer survival were TSF on discharge, colorectal primary and non-metastatic status at first diagnosis. Patients with ascites and whose cancer first presented with MBO had an inferior survival. Non colorectal primary remained a multivariate predictor for decreased survival. TSF was predicted by the absence of ascites, an obstruction not involving the small bowel, and a preoperative albumine of >3.0mg/dl. Multiple logistic regression analysis yielded presence of ascites and small bowel obstruction as predictors of inability to TSF.

**Conclusions:** Only 35.8% of the patients with MBO from peritoneal carcinomatosis will have prolonged post-operative palliation with significant treatment-related morbidity. TSF at discharge is a useful predictor of continued palliation for most pts. Patients with colorectal cancer may have superior outcome and better palliation; others are at risk for poor outcomes, especially in the presence of ascites and MBO of small bowel. In these pts. is recommended a highly selective use of laparatomy.

924 POSTER

## A pilot study of influences on decisions to receive chemotherapy in patients with advanced cancer

G.C. Higgins, A. Price. *University of Edinburgh, Oncology, Edinburgh, United Kingdom*

**Background:** Previous studies have suggested that patients with advanced cancer may find existing survival benefits from chemotherapy inadequate to justify treatment. We wished to test this, and explore contributory factors. Aim To determine what survival advantage justified chemotherapy for patients with advanced cancer and explore influences on decision making.

**Methods:** Patients with advanced cancer were identified in routine follow-up clinics, and given 4 scenarios describing patients with cancer and expected survival of 4 or 12 months (chosen to approximate the survival without chemotherapy of patients with advanced lung or breast cancer) who were offered either low toxicity outpatient or high toxicity inpatient chemotherapy. They were asked to score on a visual analogue scale (range 0-22 months) what survival benefit they would wish to receive from chemotherapy in each situation, score their quality of life, complete the Beck Hopelessness questionnaire and scored for deprivation category using the Carstairs index.

**Results:** 31 patients (18 with lung and 13 breast cancer; 12 male, 19 female, median age 64 (range 42-77) years) were given the scenarios. The median survival benefit to justify chemotherapy in each scenario for patients with lung and breast cancer were 7.6 (range 0.1-21.5) and 1.5 (0.4-12.3) months (Mann-Whitney U = 64, p=0.04); 9.7 (0.1-21.6) and 6.0 (0.1-19.5) months (p=0.25); 9.3 (0.2-21.7) and 4.0 (0.3-19.4) months (p=0.1); and 10.3 (0.1-21.8) and 6.0 (0.1-21.5) months (p=0.13). No significant correlation was seen with any factor other than prior experience of chemotherapy. Two way ANOVA of the survival benefits desired showed significant differences between scenarios (p=0.0003) and between patients (p<0.0001). For lung cancer patients 95% of the total variation was patient-related and <1% due to the scenarios, while for patients with breast cancer this was 69% and 7%.

**Conclusion:** For most patients the survival benefit justifying chemotherapy exceeded that provided by current regimes. However there were wide differences between patients. These were not explained by the factors analysed but were predominantly inter-patient variations independent of clinical scenarios. The criteria for wanting chemotherapy differed between patients with lung and breast cancer.

925 POSTER

## An examination into the cultural validity and reliability of the Turkish version of EORTC QLQ-C30

A. Guzelant[1], T. Goksel[2], S. Ozkok[3], S. Tasbakan[2], T. Aysan[2], A. Bottomley[4]. *[1] Izmir-Konak District Health Directorate, Izmir, Turkey; [2] Ege University Medical School, Department of Chest Diseases, Bornova - Izmir, Turkey; [3] Ege University Medical School, Department of Radiation Oncology, Bornova - Izmir, Turkey; [4] EORTC, Quality of Life Unit, Brussels, Belgium*

The assessment of quality of life has become an increasing important aspect to evaluate in cancer clinical trials. One of the most commonly used measures to do this is the European Organization for Treatment and Research of Cancer Quality of Life Questionnaire (EORTC QLQ-C30). While this has been translated into over 48 languages, including Turkish, no large scale cultural psychometric validation of the Turkish translation has been published. We therefore undertook a study to provide evidence of validity and reliability. In a cross sectional study, lung cancer patients were recruited between January and March 2000. All patients were treated and followed in the Departments of Chest Diseases and Radiation Oncology (Izmir/Turkey) were asked to complete the EORTC QLQ-C30. KPS was used to assess the functional status. Patients completed the EORTC QLQ-C30 on the same day with an assessment of the performance status. Two hundred and two patients completed the measure. The mean age was 57.9. When EORTC QLQ-C30 scales were completed, 54,6% of the patients were receiving chemotherapy, 23,2% radiotherapy, and 16% palliative treatments. Psychometric analysis revealed the percentage of missing items were generally low (<1.5%) with the exception of the items related with the global health status (item no 30 and 31, 3.6% missing), financial difficulties (no 28, 3.6% missing) and emotional functioning (no 24, 2.6% missing). All the subscales met the minimal standards of reliability (Cronbach's alpha 0,70). Only role functioning scale differed among the three disease stages of patients (local, locoregional, and metastatic). All interscale correlations were statistically significant (p<0.01). The strongest correlations were found among physical functioning, role functioning, and

fatigue scales. Global quality of life was correlated substantially with most of the scales but cognitive functioning. The coefficients for the correlation between the items differed between 0.12 and 0.97 and all the subscales were strongly correlated with the scales those they formed. The highest correlation between the EORTC QLQ-C30 and KPS was for the physical functioning ($r=0.62$, $p<0.05$). The Turkish version of the EORTC QLQ-C30 is a valid and reliable instrument for the Turkish lung cancer patients and can be used in clinical study.

926 POSTER

## Final results of a randomized phase II study evaluating the role of erythropoietin during radiochemotherapy for pelvic tumors

D. Antonadou[1], N. Throuvalas[1], R. Lavey[2], A. Sagriotis[3], M. Boufi[1], A. Petridis[1], N. Malamos[4]. [1] *Metaxa Cancer Hospital, Radiation - Oncology Dept., Piraeus, Greece;* [2] *University of Southern California, Pediatrics and Radiation Oncology Dept., USA;* [3] *ACIS, Statistics Dept., Athens, Greece;* [4] *Helena's Maternity Hospital, Athens, Greece*

**Background:** Anemia is a poor prognostic factor for patients undergoing radiochemotherapy (RCT) for pelvic tumors. The purpose of this randomized clinical trial was to test the efficacy and safety of the administration of human recombinant erythropoietin (EPO) in patients undergoing concurrent RCT.

**Material and Methods:** Patients with previously untreated FIGO stage IB –IIIB carcinoma of the cervix or stage B2 -C carcinoma of the bladder and Hb between 10.0-13.0 g/dl were randomized to treatment with RCT alone or with EPO (10,000 U Sc 5 days/week) starting on Day 1 of RCT. EPO administration was stopped whenever Hb level > 14g/dL. RCT consisted of 90mg/m2 carboplatin once weekly during the 5-6 week course of external beam radiotherapy (2 Gy qd) to the pelvis. Cervix cancer patients underwent intracavitary brachytherapy following RCT. Patients were given supplemental iron only if blood serum iron was less then 60mg. Complete blood counts were measured weekly during RCT. Blood transfusion was given for Hb < 9 g/dl.

**Results:** Between October 1998 and July 1999, 55 patients were enrolled in this study, of whom 54 (28 in the EPO group and 26 in the control) were evaluable; the other patient died of intercurrent disease during treatment. The groups did not differ significantly in patient age, gender, baseline Hb level, tumor stage or primary site. Blood transfusion was necessary for 10 patients (38.5%) in the RCT alone group compared to 2 patients (7.1%) in the EPO group ($p=0.008$). The change in Hb during therapy was -0.5 g/dl in the RCT group despite the blood transfusions versus 1.0 g/dl in the EPO group ($p<0.001$). Treatment interruption was necessary in 9 patients (36%) in the RCT group mostly due to transfusion requirements versus 1 patient (4%) in the EPO group ($p=0.01$). There were no complications attributable to EPO other than deep vein thrombosis in one patient. 18 patients (69.2%) had a complete response to RCT in the RCT only group versus 22 (78.6%) in the EPO group. 8 patients (30.8%) had a partial response in the RCT only group versus 6 (21.4%) in the EPO group ($p=0.540$). Time to progression at 3 years did not differ significantly between the two groups ($p=0.809$) as well as overall survival ($p=0.961$).

**Conclusion:** Administration of EPO during concurrent RCT significantly decreased the need for red blood cell transfusion and treatment interruption and increased Hb levels in this randomized trial.

927 POSTER

## Prevention of chemotherapy-related episodes of febrile neutropenia (FN) in small-cell-lung-cancer (SCLC) patients: in practice not theory.

J. Timmer-Bonte, V. Tjan-Heijnen. *University Medical Centre Nijmegen, Medical Oncology, Nijmegen, The Netherlands*

**Background:** Use of G-CSF to prevent chemotherapy-related FN, although subject to (inter)national guidelines, is still associated with wide variations in use and uncertainty about when they are clinically indicated. Also antibiotics (AB) prove to be an effective, less expensive, prophylactic strategy. Within the framework of an ongoing randomised multicenter prospective trial in the Netherlands, comparing the clinical and economical effects of primary prophylactic AB versus AB in combination with G-CSF in SCLC patients at risk of FN, a survey was carried out to assess current daily practice.

**Material and methods:** A validated survey solicited data on respondents' patterns of G-CSF and AB use through two hypothetical clinical scenarios for a 62 year old man with small cell lung cancer beginning chemotherapy (primary prophylaxis), and a 65 year old woman who is about to begin her second cycle of chemotherapy after hospitalization with FN following the first cycle (secondary prophylaxis). Dutch pulmonologists with a specific interest in oncology were addressed.

**Results:** The response rate was 70% (47 out of 67). Physicians did not support G-CSF use for primary prophylaxis in small cell lung cancer, only 4% used G-CSF in this setting 'always',2% 'usually', 17% 'sometimes', 32% 'rarely' and 43% 'never'. Respondents were mixed in their support for G-CSF and/or AB as secondary prophylaxis: 'Same dose-No G-CSF/ AB' in 6%, 'Reduced dose-No G-CSF/AB' 4%, 'Same dose-AB' 13%, 'Reduced dose-AB' 6%, 'Same dose-G-CSF' 40%,'Reduced dose-G-CSF' 6%,'Same dose-AB+G-CSF' 19% and 'Reduced dose-AB+G-CSF' 0%. Working in a non-academic setting is associated with a preference to use 'same dose-G-CSF' as secondary prophylaxis (2 out of 12 'academic'respondents (16%) versus 17 out of 32 'non-academic' (53%)). Whereas 'same dose-AB' was preferred by respondents working in an academic setting (4/12 (33%) versus 2/32 (6%)). No differences were found for other factors as year of registration (before or after 1990) or number of new SCLC-patients/ year (more or less than 10).

**Conclusion:** G-CSF use is still popular in secondary prophylaxis of FN in SCLC patients. Future efforts should focus on effectively implementing evidence resulting from randomised trials, to employ in practice a more rational, cost-effective and uniform approach to prevent FN in patients at risk.

928 POSTER

## What factors predict family physician referral for palliative radiotherapy?

J. Meng[1], E. Fitzgibbon[1], R. Samant[1], I. Graham[2]. [1] *Ottawa Regional Cancer Centre, Radiation Oncology, Ottawa, Canada;* [2] *Ottawa Health Research Institute, Ottawa, Canada*

**Background:** Palliative radiotherapy is an effective treatment option in the management of metastatic bone pain, tumor hemorrhage, fungation or ulceration, dyspnea, blockage of hollow viscera, and shrinkage of any tumors causing problems by virtue of space occupancy. Expert opinion suggests that while 50-60% of cancer patients can benefit from radiotherapy, only 30-35% of cancer patients receive radiotherapy in Ontario, Canada. Why this disparity? Our work set out to identify the factors influencing family physicians' referral for palliative radiotherapy. The Ottawa Model of Research Use (OMRU) was designed to provide a practical framework to systematically evaluate supports and barriers to the utilization of an evidence-based intervention, such as palliative radiotherapy. Using the OMRU framework, the factors associated with a family physician's intention to refer a patient for palliative radiotherapy were categorized into four areas related to: 1) the patient, 2) the family physician, 3) the practice environment, and 4) the intervention, i.e., radiotherapy program referral.

**Materials and methods:** A survey was designed, piloted, and sent to a random sample of 400 primary care physicians in the Eastern Ontario region.

**Results**: A response rate of 50% was obtained with 84% of physicians regularly involved in caring for patients with advanced cancer. 62% had previously referred a patient for radiotherapy. Factors determined to be significantly associated ($p<0.05$) with patient referral for palliative radiotherapy include: 1) patient preference (trend, $p=0.06$), 2) practice: regularly caring for patients with advanced cancer, hospital admitting privileges, and rural based, 3) family physician: their knowledge of the effectiveness of radiotherapy, and 4) radiotherapy program: accessibility of the radiation oncologist and family physician awareness of the referral process for radiotherapy.

**Conclusions**: This survey has helped identify some of the practical supports and barriers to the use of palliative radiotherapy by family physicians which will be used to guide the development and improve utilization of our palliative radiotherapy program.

929 POSTER

## Antiemetic patterns of care for radiotherapy-induced nausea and vomiting

P.Ch. Feyer[1], M.H. Seegenschmiedt[2]. [1] *Vivantes Clinics Berlin-Neukölln, Clinic of Radiotherapy, Radiooncology & Nuclear Me, Berlin, Germany;* [2] *Alfried Krupp von Bohlen und Halbach Krankenhaus, Klinik für Radioonkologie und Strahlentherapie, Essen-Rüttenscheid, Germany*

The risk of developing RINV varies and depends on several patient- and treatment-related risk factors, such as age, gender, size and localization, dose and schedule. The impact of RINV on QoL may be considerable, particularly with prolonged symptoms associated with fractionated radiotherapy. Guidelines for the treatment of RINV recommend the 5-