lung-specific X protein (LUNX) and hepatocyte growth factor receptor (c-met). In total 51 patients were enrolled in the study.
Results: Expression of selected biomarkers in tumours of different histogenetic origin was analysed. Expression of LUNX is highly specific for tumours of lung origin, as well as in EGFR and CEA. C-met does not show this specificity.
We found an increasing trend of CEA expression in bone marrow with higher clinical disease stage of patients ($p < 0.11$). A higher CEA ($p = 0.10$) and c-met ($p < 0.02$) expression rate in the pulmonary blood of patients with histologically proven lymph node metastases was detected than in patients with negative lymph nodes. An increasing trend of CEA expression in bone marrow ($p < 0.025$) was found with higher grade of tumour.
The percentage representation of MRD positive samples in individual patient groups divided by clinical stage was further analyzed. Increasing positivity of CEA in bone marrow and c-met in systemic blood was found with higher clinical disease stage. Marker LUNX showed significantly higher positivity in the pulmonary blood of patients with a higher clinical disease stage.
Conclusion: The pilot results show that LUNX is a good candidate marker for the MRD detection in lung cancer in blood as well as in bone marrow. Scanning MRD in lung cancer is a potential prognostic marker. Its significance requires further study.
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9064 POSTER

Timeliness of Referral of Patients With Abnormal Chest X-Ray Suggestive of Lung Cancer

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Background: 'All patients with chest radiograph report suggestive of lung cancer should be seen by respiratory physician within 14 days' (Nice 2004). Requesting clinician is responsible to review chest x-ray (CXR) reports and refer suspected patients for investigation.
Our aim was to determine:
– if the number of delayed referrals following an abnormal x-ray in patients diagnosed with lung cancer in 2010 has been reduced;
– if earlier unreported or undetected radiographic abnormalities existed that might have led to earlier referral;
– To compare our results to the results of studies performed in 2005, 2008 and 2009.
Material and Methods: The CXR of lung cancer patients diagnosed in 2010 have been inspected retrospectively and patients considered "delayed" if a CXR prior to the diagnostic radiograph showed suspicious lesion. "Delayed" patients were further categorised according to whether the x-ray was reported abnormal but no action was taken (Delayed action), reported normal (Undetected lesion) or not reported (Unreported) and compared to the same patient groups in studies performed in 2005, 2008 and 2009.
Results: Chest x-ray of 140 patients diagnosed with lung cancer in 2010 were reviewed. 78/140 had no previous x-ray at Queen Elizabeth Hospital. 42/140 patients' previous x-ray were not suggestive of lung cancer. Our colleague radiologists, who were otherwise uninvolved in the study, were asked to review 20 anonymised CXR that could have been suggestive of lung cancer. Of these 16 patients had abnormalities on previous CXR that were either Delayed action (3) Unreported (3) or lesions Undetected (10). The table below shows 2010 study results compared to results of 2005, 2008, 2009 studies:

Year	2005	2008	2009	2010
Total patients	169	149	232	140
Delayed action	18 (10.6%)	5 (3.4%)	5 (2.2%)	3 (2.1%)
Undetected lesion	23 (13.6%)	11 (7.4%)	12 (5.2%)	10 (7.1%)
CXR unreported	0 (0.0%)	4 (2.7%)	9 (3.9%)	3 (2.1%)
Total	**41 (24.2%)**	**20 (13.4%)**	**26 (11.2%)**	**16 (11.4%)**

We also investigated the time delay between a suspicious chest x-ray and the diagnosis of lung cancer being made. In 2008 and 2010 there was a large reduction in the number of patients having delay between 0−4 months. This reflects better pick up rates and more consistent referrals. But there are larger delays between 4−24 months explained by the following: if CXR lesion is initially missed there is no additional 'safety net' for the prompt diagnosis, so patients present at a later date with symptoms.
Conclusion: Significant improvement and adherence to referral guidelines have been seen since 2005. Immediate referral of suspicious CXR speeds diagnosis but only for patients who would have been diagnosed within 4 months implying that they have larger or more aggressive tumours which might become symptomatic sooner. 'Undetected lesion' group accounts for nearly 50% delays reflecting difficulty detecting small nodules which if not detected there is no other safety net to avoid further delay. More vigilance on the part of doctors requesting/reporting CXR will bring further improvement.

9065 POSTER

Psychological Adjustment in Patients With Lung Cancer

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Background: The aim of this pilot study was to identify predictors of adjustment and tests the efficacy of a psychological intervention with patients diagnosed with lung cancer on their adjustment over time.
Material and Method: All patients aged 43−77 years newly diagnosed with lung cancer who met the inclusion criteria and were awaiting surgery were assessed. The study assesses global and cancer specific stress, global and cancer specific coping and social support on depression, anxiety, positive and negative affect, body image and benefit finding in patients with first diagnosis of lung cancer.
Results: First wave of results report on the predictor of psychological adjustment pre- and post-surgery of 20 patients recently diagnosed and on the efficacy of the cognitive behavioral intervention on 7 patients who have been randomized to the intervention.
Conclusion: Results to date indicate that perceived stress is the strongest predictor of emotional adjustment at diagnosis and post-surgery. ANOVA results demonstrate the effectiveness of the intervention in reducing levels of lung cancer specific stress, distress and on increasing adaptive coping ang benefit finding.

Poster Presentations (Mon, 26 Sep, 14:00−16:30)
Lung Cancer − Metastatic

9066 POSTER

High ALK Gene Copy Number in Non-small Cell Advanced Lung Cancers

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Introduction: Increased ALK gene copy number has been described as a frequent event in non small cell lung cancers. We report a correlation between ALK status (copy number and rearrangement) and EGFR/KRAS mutational status among advanced non small cell lung cancer (NSCLC).
Methods: ALK status was evaluated by fluorescence in situ hybridization (FISH) in paraffin embedded specimens from advanced NSCLC patients. ALK scoring was performed following Cappuzzo criteria established for EGFR and HER2 in lung cancer. High gene copy number (GCN) was defined as the presence of $\geqslant 6$ copies of ALK per cell in $\geqslant 10\%$ of analyzed cells. FISH with CEP2 was performed to determine the ploïdy status in samples with high GCN.
All coding sequences of exon 18 to 21 of *EGFR*, and of exon 2 and 3 of *KRAS* were analyzed by Sanger direct sequencing performed after Polymerase Chain Reaction (PCR) amplification.
Results: Main characteristics of 76 tested pts were as follow: adenocarcinoma features in 50 cases (66%), median age (55, 24−79), 44 (58%) were male, 28 (37%) were never smokers. EML4-ALK translocation was present in 10 cases (13%) which were wild type for both EGFR and KRAS. Eight cases (11%) exhibited ALK high GCN and 46 (60%) GCN gains, whereas eight (11%) exhibited monosomy. FISH with CEP2 revealed a polysomy of chromosome 2 in ALK high GCN. EGFR was mutated in 7 cases, two having ALK high GCN. KRAS was mutated in six cases, five with over three ALK gain. Data survival will be reported.
Comments: Increased ALK GCN is mainly due to polysomy and is not exclusive from EGFR and KRAS wild type. Further preclinical studies in lung cancer models are ongoing to determine the predictive value of this event.