P193 THE VALUE OF A REGIONAL MESOTHELIOMA MULTIDISCIPLINARY TEAM MEETING—AN AUDIT

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Both the British Thoracic Society 2007 guidelines (1) and the National Mesothelioma Framework (2) advocated the development of regional mesothelioma multidisciplinary team (MDT) meetings to discuss all mesothelioma cases on a regional basis. The Avon, Wiltshire and Somerset cancer network regional mesothelioma MDT team was established in 2008. We undertook a retrospective audit to evaluate its value.

Methods All patients referred for discussion in the 12-month period, 1st January 2009 to 31st December 2009, were included in the audit. The referral information and MDT outcomes were reviewed.

Results In total 76 patients were discussed; 66 males, median age 72 (40–88) and 10 females, median age 71.5 (46–88). WHO performance status was 0 in 15/67 (22%), 1 in 36/67 (53%), and 2 in 9/67 (13%). All 76 cases had a tissue diagnosis of mesothelioma made at their local hospital. Biopsy techniques included CT guided biopsy 28/68 (41%), local anaesthetic thoracoscopy 16/68 (24%) and VATS 19/68 (28%). All histological specimens were reviewed by the MDT. The final diagnosis was mesothelioma in 74/76 cases. The histological subtypes were; epithelioid 53 (69%), sarcomatoid 17 (22%), biphasic 3 (4%) and histiocytoid 1. In two (3%) cases, the diagnosis of mesothelioma was changed to severe reactive pleuritis only. Clinical follow-up and interval CT confirmed no evidence of malignancy. In addition, a further case with suspicious histology was confirmed to be reactive pleuritis only. Consideration of chemotherapy was felt appropriate in over two thirds of patients and patients could also have entered into a clinical trial. A total of 26/65 (40%) patients went on to have at least one cycle of chemotherapy and of these patients 19/26 (73%) entered a clinical mesothelioma trial.

Conclusions This audit supports the valuable role a regional mesothelioma MDT can play, both in the confirmation of the diagnosis and in evaluating eligibility for potential clinical trials.

REFERENCES

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P194 THE RISE OF EBUS: THE FALL OF MEDIASTINOSCOPY?

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Introduction EBUS is a minimally invasive procedure that can be used instead of mediastinoscopy to investigate mediastinal lymphadenopathy, including the staging of lung malignancy. However, its impact on the use of mediastinoscopy is unknown. We wished to determine the efficacy of a recently introduced EBUS-TBNA service and its impact on the number of cervical mediastinoscopies at our institution.

Methods We analysed the results of a prospectively recorded database of all cases referred for EBUS-TBNA over a 1-year period following its introduction in June 2009, and compared them with the number of cervical mediastinoscopies performed in the year before and after its implementation.

Results 216 patients underwent EBUS-TBNA (1st quarter 30, 2nd 56, 3rd 56, and 4th 74), with an average time from referral to procedure

5 days (range 1–15). Two who were intolerant were excluded from subsequent analysis: of the remainder 189 underwent lymph node biopsy, 16 peribronchial lesions and 9 a combination. 346 lymph node stations (144 lower paratracheal, 104 subcarinal, 83 hilar, 9 upper paratracheal, 3 paraoesophageal, 2 lobar and 1 retrotracheal) were biopsied with an average size of 1.3 cm (0.5–6): <1 cm nodes were biopsied in 50 patients (65 lymph nodes). Adequate samples were obtained in 203 patients (95%): 105 carcinoma, 27 sarcoidosis, 2 tuberculosis, 2 cysts, 1 cryptococcus, 1 lymphoma, and 65 benign lymphoid tissues. Of the latter, 36 were confirmed benign by surgery or clinical follow-up, 2 await mediastinoscopy/resection, 22 could not be confirmed, 3 were subsequently diagnosed as lymphoma and 2 with sarcoidosis. 2 patients (>6 biopsies each) developed self-limiting pyrexia (<12 h) and 1 patient developed a COPD exacerbation, which required intensive treatment for 24 h. During the same period, 67 patients underwent mediastinoscopy compared to 105 in the preceding 12 months (37% reduction).

Conclusion Our experience suggests that EBUS is a safe and effective alternative to mediastinoscopy in the diagnosis of patients with mediastinal lymphadenopathy and the staging of lung cancer patients. Its introduction was accompanied with a reduction in the use of cervical mediastinoscopy, saving NHS costs and improving the experience of patients undergoing this diagnostic pathway.

P195 TEMPORAL TRENDS AND DISTRIBUTION OF RECURRENT DISEASE FOLLOWING LUNG CANCER SURGERY AND RELATIONSHIP TO PRE-OPERATIVE PET SCAN

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This audit based on 10 years of data held within the Salford Lung Cancer Team was designed to identify the temporal pattern and distribution of recurrent disease (RD) following surgery and how these may have been affected by the introduction of PET scanning to our service in 2004.

From 2000 to 2009, 118 lung cancer resections were carried out within our service with curative intent. 1 and 2-year survival rates (2000–2007) are 92/86% respectively for 1A/B disease, 88/59% for 2A/B and 86/57% for 3A. Thus far, 47 patients in the whole cohort (40%) have developed RD of which 35 (30%) have died. Rates for fatal recurrence by post-operative stage were 18.2% for 1A, 30.3% (1B), 27.3% (2A/B), 18.2% (3A) and 6% for 3B/1V.

The temporal pattern of RD revealed that the majority of recurrence occurred within 2 years after surgery; the cumulative recurrence rate was 38.7% at 1 year, 75.3% at 2 years and 86.6% by 3 years.

The distribution of RD revealed that the ratio of intra-thoracic to extra-thoracic metastasis was broadly similar (46%:54%, respectively). Extra-thoracic metastases developed in the Brain (17%), Bone (14%), Extra-thoracic Lymph nodes (7%), Liver (4%), Skin (3%), others (9%). The Abstract P195 Table 1 below sets out the relationship between the temporal pattern of recurrence and sites of metastasis.

Of note, in the cohort of patients with 2 years of follow-up from 2000 to 2007, rates of recurrence were similar in the 40 patients undergoing pre-operative PET scan (45%) versus the 39 patients having conventional CT staging (54%). Similarly, rates of RD were similar in both groups for intra-thoracic and extra-thoracic recurrence.

Conclusions

1. The peak incidence for RD after lung cancer surgery is within the first 2 years of follow-up. This is the time for intensive pro-active monitoring.

2. Pre-operative PET scans play an undoubted role in selecting patients for surgery but thus far in our service, they don't appear to be associated with significantly less RD because of the problem of microscopic metastases.

Abstract P195 Table 1 Temporal trends and distribution of recurrent disease following lung cancer surgery

Site	N=58	Range (months)	Mean
Lung	24	1–44	19.8
Brain	10	2–23	12.3
Bone	8	1–44	23.0
Liver	2	14–34	24.0
Mediastinum	3	6–44	29.7
Lymph nodes	4	12–18	14.8
Skin	2	3–32	16.5

P196 CRYO-RECANALISATION VIA DAY-CASE FLEXIBLE BRONCHOSCOPY FOR CENTRAL AIRWAY OBSTRUCTION

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Introduction and Objectives The use of a flexible cryoprobe to effect bronchial recanalisation inpatients with central airway obstruction (CAO) has previously been described, in patients under general anaesthesia undergoing rigid bronchoscopy (C Schumann *et al.* *J Thorac Cardiovasc Surg* 2010;**139**:997–1000). Few data on flexible bronchoscopic cryorecanalization have been published.

Methods All flexible interventional bronchoscopic procedures were recorded prospectively in a database, and data extracted on all procedures in which cryo-recanalisation (Erbokryo, ERBE UK Ltd) was attempted. Data collected included demographics, diagnosis, indication for procedure and site of tracheobronchial abnormality, techniques used, complications and the following data pre- and post-procedure: performance status, FEV₁, patient location. The procedure duration, defined as the time in minutes between initial bronchoscope insertion and final bronchoscope withdrawal, was recorded in 23 cases. Bronchoscopies were performed in Oxford and Papworth by, or under the direct supervision of, a single operator (MS).

Results Between May 2006 and July 2010, 54 procedures were performed in 46 patients (13 female, 33 male). The median age was 69 (range 24–94). The underlying diagnosis was lung cancer in 39 procedures, endobronchial metastases in 13 and benign disease in 2 (post tracheostomy granulation tissue in 1, thrombus in 1). All patients had CAO affecting a lobar or more proximal bronchus. There was a mean improvement in FEV₁ of 0.28L (mean (SD) FEV₁ pre-procedure 1.56L (0.71L), mean (SD) FEV₁ post procedure 1.84L (0.80), $p=0.001$, paired t -test). Median performance status was 1 both before and after the procedure. In 49/54 procedures (91%) the patients were treated as day-cases, and 5/54 (9%) as inpatients. Bleeding complications occurred in two patients. In both cases bleeding of >50 mls occurred, which was controlled using epinephrine via the bronchoscope. The median procedure duration was 20 (range 7–58) min.

Conclusions Day-case cryorecanalization via flexible bronchoscopy appears to offer effective improvement in lung function in patients with CAO owing to endobronchial lesions. Procedure duration is short, and complication rates appear acceptable. We believe that cryo-recanalisation using flexible cryoprobes deserves more widespread use in centres specialising in interventional bronchoscopy.

Clinical studies in obstructive sleep apnoea

P197 THE EFFECT OF CPAP THERAPY ON INSULIN SENSITIVITY AND CV RISK FACTORS IN PATIENTS WITH OSA

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In a prospective study, we assessed the effect of CPAP therapy on the insulin sensitivity and CV risk factors such as blood pressure (BP), glycaemia status, and lipid profile in patients with obstructive sleep apnoea (OSA).

Only patients with confirmed presence of cardinal features and diagnostic apnoea/hypopnoea index (AHI) for OSA were enrolled in the study. All patients were studied before the initiation of CPAP therapy. Following an initial screening visit before CPAP treatment, patients were then studied at 6 and 12 weeks following the initiation of CPAP.

We studied 41 patients with confirmed OSA, aged 56 ± 13 (mean $\pm$ SD) years, 33 male and 8 female, who had their weight, BP and fasting blood samples checked in a screening visit and two study visits, at least 6 weeks apart. The fasting blood samples were used to assess fasting plasma glucose, HbA_{1c}, fasting insulin, lipid profile, and CRP.

Following CPAP treatment baseline systolic BP had significantly improved compared to BP following CPAP therapy (135 ± 17 vs 123 ± 12 mm Hg, $p=0.001$) and so did diastolic BP (83 ± 9 vs 77 ± 9 mm Hg, $p=0.01$). There were also improvement in fasting plasma glucose (5.6 ± 1.7 vs 4.9 ± 2.0 mmol/L, $p>0.05$) and HbA_{1c} (5.8 ± 1.3 vs $5.4 \pm 1.7\%$, $p>0.05$), but that was not statistically significant. There had been non-significant improvement of fasting insulin level (17.9 ± 25 vs 12.7 ± 15.5 pmol/L, $p>0.05$), but no improvement on insulin sensitivity. Lipid profile had also improved, as total cholesterol was decreased (5.2 ± 2.0 vs 4.8 ± 1.9 mmol/L, $p>0.05$), and so did triglycerides (2.7 ± 4.4 vs 2.0 ± 2.0 mmol/L, $p>0.05$), but these changes were not statistically significant. CRP had also improved but that was not statistically significant (4.5 ± 10 vs 2.4 ± 2.0 mg/L, $p>0.05$).

In conclusion, this study demonstrates that CPAP therapy in patients with OSA can result in significant improvement in systolic and diastolic BP, as well as non-significant improvement in lipid profile and glycaemia status.

P198 EFFECTS OF OXYGEN THERAPY ON CENTRAL SLEEP-DISORDERED BREATHING IN INFANTS WITH PRADER-WILLI SYNDROME

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Background Children with Prader-Willi syndrome (PWS) are known to have sleep-disordered breathing. In addition to hypersomnolence and obstructive sleep apnoea, central respiratory control abnormalities may be present from infancy. The aims of this study were to describe breathing patterns in infants with PWS, and the effects of supplemental oxygen in this group.

Methods Children with PWS attending a tertiary sleep clinic underwent full polysomnographic studies either to investigate persisting neonatal oxygen requirement, or as screening for sleep-disordered breathing. Continuous oxygen saturations (SpO₂) and transcutaneous carbon dioxide (tcCO₂) were recorded. Central and obstructive events were defined in accordance with the American Academy of Sleep Medicine (AASM) 2007 scoring rules. Children who had significant hypoxia associated with central events were started on supplemental oxygen during sleep and followed at 3-monthly intervals with split-night studies (periods in both air and supplemental oxygen). Paired t -tests were used to compare sleep data in air and oxygen arms for our subject cohort.