Office for National Statistics data using Kaplan-Meier survival graphs, Pivot tables, multivariate analysis (Cox proportional hazard model) and log rank testing using SPSS v19 and Excel 2010.

Mesothelioma incidence, diluted by a rural hinterland, rose over 10 years from 2 to 16 per million compared with HSE data for overall UK incidence (2006–8) of 62.3 per million (male) and 11.6 per million (female). Annual mesothelioma deaths as a proportion of all deaths rose over 10 years from 0.02 to 0.17%. 87% cases were male, mean age of presentation was 72 years (range 34–95 years), and overall median and 95% Confidence Interval (CI) survival of 8 (5.8–10.2) months.

Median (CI) survival was 11 (8.6–13.4) months for patients < 75 years age, greater than for ≥75 years of 3 (0.7–5.3) months ($p=0.005$). There was a significantly greater survival of patients with performance status (PS) 0 or 1 at 11 (8.2–13.8) months compared to PS 2.3 or 4 at 2, (9–3.1; $p=0.0000002$) months.

Multivariate analysis, using a Cox proportional hazards regression model showed epithelioid histology subtype predicted longer survival compared to sarcomatoid (Hazard ratio 0.11 (CI 0.02–0.52; $p=0.005$); see Fig. 1).

Survival analysis using a log rank test showed no significant difference between median (CI) survival of men 8 (6.0–10.0) months and women 5 (0–11.9; $p=0.7$) months. Other variables not significantly affecting survival were side of tumour ($p=0.9$), and diagnosing hospital ($p=0.07$).

Extrapleural pneumonectomy (EPP) was performed on 10 patients (5 male, PS 0–1, age 34–76 years). Survival for patients receiving EPP was 20.0 (3.3–36.7) months, significantly greater than 7.0 (4.2–9.5) months for all patients ($p=0.023$). No statistically significant survival benefit for EPP was seen compared with survival of 49 patients matched for age and PS ($p=0.182$); these findings were confirmed by multivariate analysis.

We conclude that mesothelioma represents an increasing burden and that patient factors, not treatment, govern survival.

Abstract P198 Figure 1

P199 MERSEYSIDE & CHESHIRE CANCER NETWORK (MCCN) AUDIT: SURVIVAL ANALYSIS OF LUNG CANCER PATIENTS WITH A PERFORMANCE STATUS OF 3 (PS3) BASED UPON THE REASON FOR THEIR POOR PERFORMANCE STATUS AND WHETHER OR NOT THEY HAD A TISSUE DIAGNOSIS

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¹P Owen, ²J Hendry. ¹Merseyside & Cheshire Cancer Network, Bromborough, UK; ²St Helens & Knowsley Teaching Hospitals NHS Trust, Prescot, UK

Introduction and Objectives Lung Cancer patients with a PS3 often fall on the boundary between fitness for active oncological treatments and “best supportive care”. Some patients with PS3 are deteriorating rapidly because of advanced cancer symptoms and have a very poor prognosis. Others have stable chronic health problems that influence PS.

Aims

- To determine the percentage of patients with PS3 who fall into these subcategories and compare 12 month survival
- To ask whether having a tissue diagnosis in patients with PS3 improves outcome.

Assigning a PS3 to a patient may influence whether or not a tissue diagnosis is pursued. In some cases this may be because the patient has severe cardiorespiratory disease and a biopsy is unsafe. In other cases, the multidisciplinary team may decide that the patient is not fit to have active oncological treatment so pursuing a biopsy would not alter management, and might even be unethical because of the risk incurred.

Methods All lung cancer units in MCCN were asked to complete a questionnaire for 50 consecutive Lung Cancer patients with PS3 (most were diagnosed in 2010), which was then compared with death data from the North West Cancer Intelligence Service.

Results Survival is generally greater in patients who are given a PS3 because they are stable due to chronic illness (34.5% were alive after 12 months) and poorer in those deteriorating due to advanced cancer symptoms (4.1%) or a combination of the two (13.1%).

In neither patients with PS3 because of ill health, nor patients with PS3 because of advanced cancer symptoms was there a clear survival advantage for patients who had a tissue diagnosis of cancer as opposed to a clinical and radiological diagnosis.

Conclusions Based on this data, there is no explicit survival advantage in pursuing tissue diagnosis in patients with PS3. In our network, those patients with PS3 who are fit for active oncological treatment received it even when it was considered inappropriate to pursue histology. In the future, should targeted therapies become available that can be tolerated in patients with PS3, the case for pursuit of histology will be stronger.

Abstract P199 Figure 1

P200 SIX YEAR EXPERIENCE WITH RIGID BRONCHOSCOPY: COMPLICATIONS, INDICATIONS AND CHANGING REFERRAL PATTERNS

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JL Bacon, SK Leaver, BP Madden. St George's Hospital, London, United Kingdom

Introduction and Objectives The objective of this study was to determine the indications and outcomes of the last 500 referrals for

rigid bronchoscopy at a tertiary referral centre and to review the referral frequency over the last 6 years.

Methods We reviewed monthly referrals for rigid bronchoscopy since 2007 and analysed indications, physiological parameters and outcomes for the last 500 cases.

Results Referrals and consequently the number of rigid bronchoscopies have risen from 10 to 30 per month over the last 6 years (see graph 1). Of the most recent 500 consecutive referrals only one case was considered unsuitable (requesting therapeutic intervention for a small subsegmental tumour with end stage interstitial lung disease and pulmonary hypertension). Indications were: laser of granulation tissue n=180; biopsy of proximal tumour n=166 (100% diagnostic); insertion of stent (bronchial and tracheal) n=86; dilation of stricture n=24; percutaneous tracheostomy insertion n=16; stent removal n=11; bioglue administration n=10 and foreign body removal n=7. Median preoperative PaO₂ was 7.8 kPa (range 6.4–11.8kPa) and CO₂ 5.9 kPa (range 4.9–7.2kPa). There were no fatalities and 2 patients (0.4%) were transferred to intensive care post procedure. Three procedures were complicated by pneumothorax (2 required drain insertion) and 5 resulted in haemorrhage >100mls (100, 200, 250, 400, 600mls). Haemostasis was achieved in all cases. No other complications were observed.

Conclusions The annual referral rate for rigid bronchoscopy has been rising since 2007. These results demonstrate the varying diagnostic and therapeutic modalities available and highlight the favourable morbidity rates and 100% diagnostic rates for this safe procedure, despite many patients with respiratory failure. It is important that respiratory physicians are aware of the potential benefit that large airway intervention can offer.

Increase in Referrals for Rigid Bronchoscopy

Abstract P200 Figure 1

P201 SINGLE-PORT VATS LOBECTOMY. MINIMISING MINIMALLY INVASIVE SURGERY

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¹L Socci, ¹A Quereshi, ²P Wake, ²M Malik, ¹E Internullo, ³D Gonzalez Rivas, ¹AE Martin-Ucar. ¹Thoracic Surgery Nottingham University hospitals NHS Trust, Nottingham, United Kingdom; ²Anaesthesia, Nottingham University Hospitals NHS Trust, Nottingham, United Kingdom; ³Minimally Invasive Thoracic Surgery Unit (UCTMI), Coruna, Spain

Introduction Only around 10% of lobectomies in the UK are performed by VATS via 3 or 4 incisions. We now offer routinely VATS lobectomy via a very novel single port access to our patients.

Methods We aim to evaluate the early outcomes of our initial experience with Single-Port VATS lobectomy. From December 2011 until July 2012, 24 cases [13 male and 11 female, age 68 (45–85)

years] were intended to undergo lobectomy via Single-Port technique. Data in Median (Range).

Results Thoraco score was 1.57 (0.1–11.8) and FEV₁ was 74 (34–157) % predicted. Thirteen operations were right-sided (5 upper, 2 middle and 6 lower lobectomies), and eleven left-sided (6 upper and 5 lower).

Operations lasted 127 (65–194) minutes. One intercostal drain was used in all cases, and it was removed at 3 (1–9) days. Patients were discharged home at 3 (range 1–21) days. There was one post-operative death in our experience, a patient who was ready for discharge 3 days after surgery when he suffered a dense middle cerebral artery stroke that led to his death by contralateral pneumonia 20 days later. One case was converted to thoracotomy due to bleeding and another case a retractor was used in the incision to enable safe suture of a branch of the pulmonary artery after partial failure of the stapler.

In 10 of the 24 patients the patients started oral analgesia on the day of surgery without the use of epidurals or paravertebral catheters.

Conclusion Single-Port VATS lobectomy is feasible and safe. It is becoming our approach of choice for early stage lung cancer due to its low incidence of complications and the very fast recovery with some patients going home as early as the day after surgery. This technique will make the case for surgery against newest techniques of radiotherapy for lung cancer.

P202 RISK FACTORS FOR EARLY MORTALITY AFTER LUNG CANCER RESECTION: A STUDY OF THE UK NATIONAL LUNG CANCER AUDIT

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¹HA Powell, ²LJ Tata, ³DR Baldwin, ²A Khakwani, ⁴R Stanley, ²BB Hubbard. ¹Nottingham Respiratory Research Unit, University of Nottingham, Nottingham, UK; ²Division of Epidemiology and Public Health, University of Nottingham, Nottingham, UK; ³Nottingham University Hospitals NHS Trust, Nottingham, UK; ⁴The NHS Information Centre, Leeds, UK

Introduction Surgical resection is the best chance of cure for most patients with non-small cell lung cancer (NSCLC), for whom 5-year survival is otherwise poor. Selection of patients for surgery should include an estimation of the likely post-operative mortality risk but the tool often used in UK practise is a predictive score that was developed using a French database of thoracic surgical procedures, not specific to lung cancer.

Methods We used data from the National Lung Cancer Audit linked with Hospital Episode Statistics to estimate the influence of pre-operative patient and tumour factors, and the type of procedure on the odds of death at 30 and 90 days after potentially curative surgery for NSCLC. We used logistic regression to determine which factors were associated with early post-operative mortality and then calculated the percentage of patients who died within 90 days of surgery, stratified by the strongest predictors of early post-operative mortality.

Results We identified 12,096 patients who had potentially curative surgery for NSCLC in England between January 2004 and March 2010. Three per cent (n=387) and 6% (n=792) of patients died within 30 and 90 days respectively. Of the 12 clinical and socio-demographic factors assessed, age and type of procedure were consistently the most important predictors of early post-operative mortality: Odds ratio (OR) for death at 30 days for pneumonectomy compared with lobectomy 3.03, 95% confidence interval (CI) 2.32–3.94; and for each year increase in age OR 1.06, 95% CI 1.04–1.07. Performance status, co-morbidity score and sex and were also significantly associated with the outcomes. Table 1 shows the percentage of patients who died within 90 days of either lobectomy or pneumonectomy, stratified by age and performance status.