Introduction Spontaneous pneumothorax (SP) is common, with an estimated incidence of 5,000 per year in the UK. Primary spontaneous pneumothorax (PSP) can be managed with needle aspiration initially but those who fail to re-expand, and the majority of secondary SP (SSP), require admission to hospital, insertion of a chest drain and connexion to a bulky underwater drainage system. Patients with SSP have greater co-morbidities; have a long hospital stay (14–16 days) and a mortality of ~16%. There are no good predictors of outcome for patients with pneumothorax: those who will respond to drainage, those who have persistent air leak and those who will require surgery. Significant early air leak could be indicative of those patients who will not resolve spontaneously and will require surgery.

Aim To determine whether air leak measurement can predict patient outcome (surgical referral rate).

Methods Between December 2012 and June 2013, patients with pneumothorax managed on the Respiratory Ward of a tertiary referral centre had their "air leak" measured using a digital suction device (Thopaz, Medela UK).

Results A total of nine patients (6 SSP, 2 PSP, and 1 iatrogenic) were investigated. Air leak was measured during their in-patient stay: median of 3.5 days after admission (range 1–16 days). Three (33%) were referred for surgical intervention for continued air leak and pneumothorax: their average air leak was 504ml/min (range 222–952 ml/min) compared to 77 ml/min (range 1–225 ml/min) for the six patients not referred. The 427ml/min difference was not statistically significant (p = 0.2) with this sample size.

Conclusion At present, there are no good predictors of outcome for patients with pneumothorax. Air leak measurement post-drain insertion may be useful surrogate marker for on-going leak and hence non-resolving pneumothorax. This pilot study showed a difference in early leak measurement between those patients who were ultimately referred for surgery and those spontaneously resolving, and further larger studies are now warranted, comparing air leak to clinically important outcomes in pneumothorax.

P219 EVALUATING MEDICAL THORACOSCOPY SERVICES AT A DISTRICT GENERAL HOSPITAL OVER THE PAST 13 YEARS

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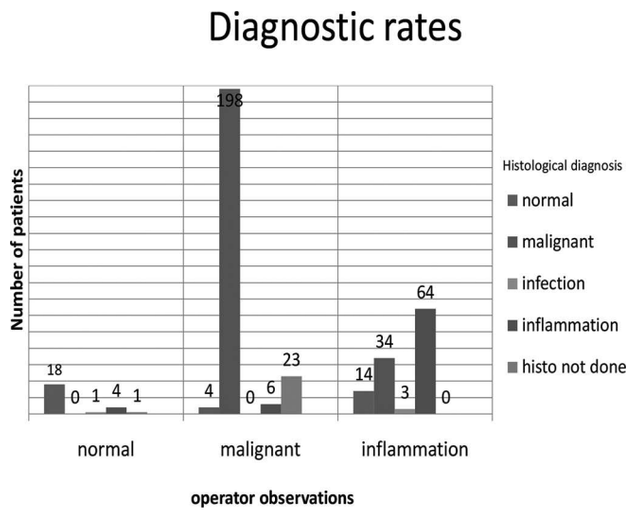
Introduction Medical thoracoscopy is an invaluable tool in the management of undiagnosed and known malignant pleural effusions. In the UK, increasing numbers of centres are offering the procedure We present the experience from a single district general hospital that has been offering medical thoracoscopy over the last 13 years.

Methodology A retrospective analysis of 411 case notes of patients who had a medical thoracoscopy between July 2000 and April 2013.

Results 291 patients (71%) were male. The median age was 70 years (24 to 92). In 321 patients (78%) the procedure was done for diagnostic purposes and the procedure was done on the right side (20%) had lung cancer, 94 (23%) had mesothelioma and 66 (16%) had other cancer.

In the 231 patients that had operator observations as appearing malignant 198(86%) were confirmed on histology. 34 (30%) patients had malignancy in operator observations that



Abstract P219 Figure 1.

were reported as inflammation but reassuringly no patients had malignancy in the operator observations that were reported as appearing normal. Talc poudrage was done in 261 (64%) patients. 53 patients (13%) required a further pleural intervention within 12 months. Complications included empyema in 3 (0.7%), renal failure in 6 (1.4%) and trapped lung in 20 (5%) patients. 6 patients (1.4%) died within 15 days of the procedure and major contributors to mortality were hospital acquired infection.

Conclusions Medical thoracoscopy is an effective procedure for diagnosing and managing pleural effusions. It is associated with a low complication rate and can be performed in patients with poor performance status. Caution should be exercised in patients with multiple comorbidities and careful management of cardiovascular status post-operatively could help reduce post-procedure kidney injury.

P220 EVOLVING ROLE OF THE RESPIRATORY SPECIALIST: PLEURAL ULTRASOUND SERVICE 4 YEARS ON

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Background The timely and safe investigation, intervention and management of pleural effusions remains discrepant with varying practices. Following the National Patient Safety Agency 2008 report highlighting 12 deaths from intercostal chest drain, the BTS recommended using ultrasound guidance when inserting chest drains. However, conventionally diagnostic and therapeutic thoracentesis have routinely been performed with either no image guidance or an "X mark the spot" in the radiology department and then transferred back to the ward for the actual procedure. All of these give rise to concern and possibly impact upon quality of care and patient safety.

Methods A retrospective analysis of ~4 years experience of providing a Respiratory team delivered ultrasound pleural service; both "inpatient" and "ambulatory".

Results In the 12 months prior to the establishment the pleural service, the radiology department did a total of 96 ultrasounds, of which 46 were "X" marks the spot.

Since May 2010, 581 pleural ultrasounds have been performed; with only 5 dry taps and 3 clinically insignificant iatrogenic pneumothoraces. 41% were therapeutic thoracentesis,