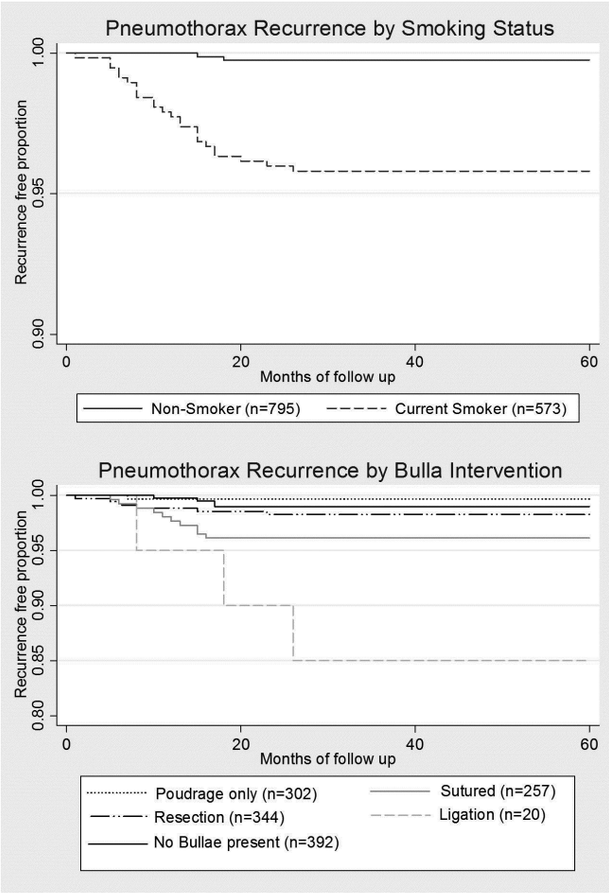
Methods Patients undergoing VATS for PSP at Carlo Forlanini hospital in Rome between January 2000 and December 2012 were prospectively collected. All patients underwent talc poudrage. Targeted surgical techniques were selected based on the presence of air leak and Vanderschueren stage. Patients had regular clinical and radiological follow-up for a minimum of 2 years. Surgical details, demographics and smoking histories were collected at baseline and data on duration of hospital stay, complications and recurrence rates were collated.
Results 1415 patients underwent VATS for PSP during the trial period. The majority of patients were male (76.2%). Median age was 25.3 years (IQR 21.0–29.4). The majority of patients underwent surgery due to recurrent pneumothorax (92.2%). Median length of stay was 5 days (IQR 5–6). 47 patients had incomplete follow up in December 2014 and so complete recurrence data is available for 1368 patients.



Abstract S22 Figure 1

VATS had a low complication rate of 2%, the majority of which was prolonged air leak (1.7%). Recurrent pneumothorax occurred in 26 patients (1.9%) over a median follow up of 8.5 years. Recurrence rates were significantly higher in current smokers at the time of surgery (24/573–4.2%) than in non-smokers (2/796–0.25%) $p < 0.001$. Bullae suturing (3.9%) and ligation (15%) were associated with statistically significant higher rates of recurrence compared with poudrage alone when controlled for smoking status and Vanderschueren stage.
Conclusions The marked difference in recurrence rates between smokers and non-smokers suggests that this factor is of key importance in predicting recurrence risk after VATS. This study demonstrates a low incidence of recurrence for patients undergoing VATS for PSP. Bullae ligation and bullae suturing appear to be associated with a higher risk of recurrence.

S23 AMBULATORY PERCUTANEOUS LUNG BIOPSY WITH EARLY DISCHARGE AND HEIMLICH VALVE MANAGEMENT OF IATROGENIC PNEUMOTHORAX – A NEW MODEL FOR THE UK

RR Abdullah, AN Tavare, DD Creer, S Khan, R Vancheeswaran, SS Hare. *Barnet General Hospital, Royal Free London NHS Foundation Trust, London, UK*

10.1136/thoraxjnl-2015-207770.29

Aim To determine if an early discharge radiology-led percutaneous lung biopsy (PLB) service, incorporating ambulatory outpatient small calibre Heimlich valve chest drain (HVCD) to treat pneumothorax, is potentially safe and advantageous to the NHS.
Methods A prospective study of 489 consecutive outpatient image-guided PLBs, performed between March 2011–March 2015, was conducted. Patients were discharged at 30 min if no pneumothorax was present; repeat 60-minute CXR was performed if a small asymptomatic pneumothorax was noted. If stable, patients were discharged. In enlarging or symptomatic pneumothorax, patients were discharged with HVCD *in situ* and followed up for drain removal. Data on complications was concurrently collected, including pneumothorax rates, numbers of patients requiring HVCD and failed early discharge. A retrospective blinded pulmonary function test (PFT) analysis was also performed at the end of the study period.
Results 489 PLBs were performed with diagnostic accuracy of 97.8%. 402 (82.2%) patients were discharged at 30 min, all without further incident. 87 patients developed pneumothorax (17.8%). 35 patients with a small stable, asymptomatic pneumothorax were discharged at 60 min without complication. 52 patients required HVCD, with 5/52 proceeding to PLB with drain in-situ: 38/52 (73.1%) had drain removal at 24 h and 14/52 (26.9%) at 48 h, with none requiring HVCD greater than 48 h. 4/489 patients were admitted, for social issues.

A blinded retrospective review of PFT data, available in 212/489 patients, revealed 28 with FEV1 <1l. 22/28 (78.6%) were discharged at 30 min without incident; 6/28 patients (21.4%) developed post –PLB pneumothorax with three (10.7%) requiring outpatient HVCD, for 24 h duration.
Conclusion This prospective study of 489 consecutive outpatient PLBs, novel in the NHS setting, provides evidence for a paradigm shift in current UK lung biopsy practice: (i) early discharge PLB, facilitated by use of ambulatory HVCD, is safe and expeditious, thereby enabling more prompt lung cancer diagnosis; and (ii) use of outpatient HVCD is clinically and economically beneficial, saving precious hospital beds whilst also facilitating lung biopsy in severely emphysematous patients with negligible morbidity.

S24 LUNG PARENCHYMAL ASSESSMENT IN PRIMARY AND SECONDARY PNEUMOTHORAX - A CASE-CONTROL STUDY

[1]OJ Bintcliffe, [2]AJ Edey, [3]IS Negus, [1]NA Maskell. *[1]University of Bristol, Bristol, UK; [2]North Bristol NHS Trust, Bristol, UK; [3]University Hospitals Bristol NHS Foundation Trust, Bristol, UK*

10.1136/thoraxjnl-2015-207770.30