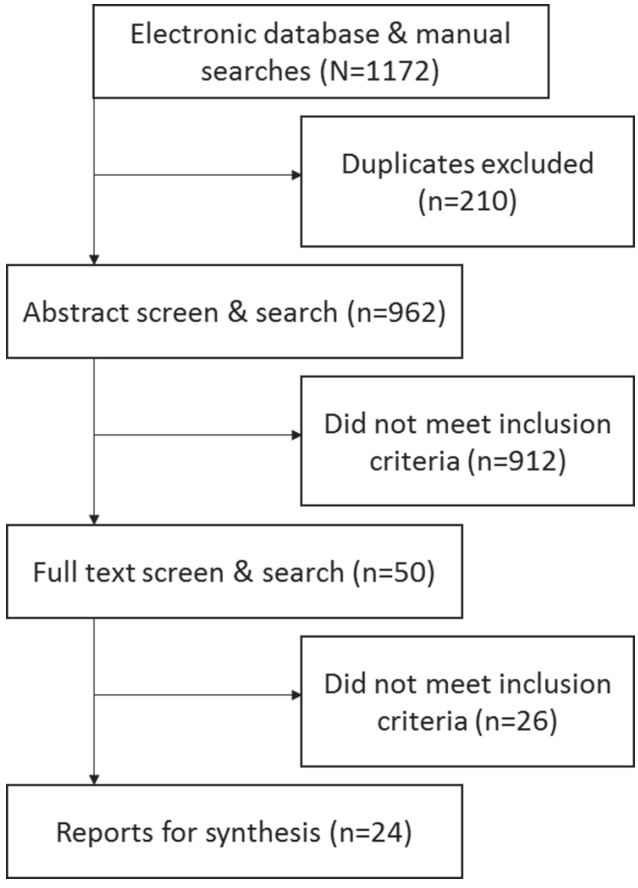

Abstract P163 Figure 1 PRISMA flow diagram of evidence synthesis

P164 CHANGING PATTERNS OF THE USE OF LUNG BIOPSY IN INTERSTITIAL LUNG DISEASE

L Brockbank, E Hilal, J Holemans, J Greenwood, M Walshaw, K Mohan. *Liverpool Heart and Chest Hospital, Liverpool, UK*

10.1136/thoraxjnl-2016-209333.307

Introduction Radiological and international guidelines have improved the diagnosis of interstitial lung disease (ILD) subtype in the absence of a surgical lung biopsy (SBx). However, it may still be needed since up to 38% of cases[1] cannot be diagnosed on clinical and radiological grounds alone, and new antifibrotic therapies require more diagnostic certainty for idiopathic pulmonary fibrosis (IPF). We wished to ascertain whether SBx rates and diagnostic outcomes had changed at our regional thoracic centre.

Methods We looked at 104 consecutive patients undergoing SBx between May 2014 to April 2016, and compared their mode of referral and outcome with a previous study (210 cases) in the same centre conducted between 2001 and 2008.

Results There was no evidence of multidisciplinary team (MDT) input prior to SBx in 31 cases (30%), but 18 (17%) were discussed at an ILD MDT and 55 (53%) in local radiology meetings. For SBx outcome see Table. Prior diagnosis was uncertain in 28% of ILD MDT cases and 27% of local radiology meeting cases, whereas SBx confirmed the suspected diagnosis in 22% of ILD MDT cases but only 9% of radiology meeting cases.

Conclusion Overall, there appears to be increase in the ILD cases referred for SBx. Despite the small proportion of cases discussed at the ILD MDT prior to SBx, there appears to be a trend in the reduction of UIP/NSIP and significant increase in HSP, RBILD and DIP cases. Histological diagnosis remains important in ILD, and the use of other techniques with lower complication rates (e.g. transbronchial cryobiopsy) needs to be established.

Abstract P164 Table 1

Diagnosis	Percentage of cases 2001–2008 (n = 210)	Percentage of cases 2014–2016 (n = 104)	P=
Usual interstitial pneumonia (UIP)	37%	29%	0.17
Non-specific interstitial pneumonia (NSIP)	12%	7%	0.17
Organising pneumonia	10%	3%	0.025
Sarcoidosis	8%	10%	0.53
Smoking related (RB-ILD, DIP)	9%	23%	0.0014
Hypersensitivity pneumonitis	4%	12%	0.0072
Vasculitis/Connective tissue disease	2%	1%	>0.99
Other	18%	15%	0.43

REFERENCE

1 Raghu G, Mageto YN, Lockhart D, *et al*. The accuracy of the clinical diagnosis of new-onset idiopathic pulmonary fibrosis and other interstitial lung disease. A prospective study. *Chest* 1999;**116**:1168–1174.

P165 SURGICAL LUNG BIOPSY IN THE DIAGNOSIS OF INTERSTITIAL LUNG DISEASE – WHERE ARE WE NOW?

L Brockbank, E Hilal, L Johns, M Walshaw, K Mohan. *Liverpool Heart and Chest Hospital, Liverpool, UK*

10.1136/thoraxjnl-2016-209333.308

Introduction With the advent of multidisciplinary team (MDT) working and new therapies in interstitial lung disease (ILD), diagnostic accuracy is increasingly important, and international guidelines[1] have reaffirmed the importance of surgical lung biopsy (SBx) where necessary. However, SBx has associated risks: to assess this further we looked at the diagnostic yield and complication rate of SBx carried out at our regional thoracic centre for patients with ILD.

Methods We looked at all 104 SBxs carried out for ILD over 24 months between 2014–16, collecting data on the nature of the procedure, number of lobes sampled, complications encountered and mortality, and also whether the cases had been discussed at a regional ILD or local radiology MDT meeting prior to SBx.

Results Seventy cases (67%) had been discussed prior to SBx (18 at an ILD MDT). Overall, mean age was 56 years, mean FEV1 79% predicted, FVC 84% predicted, RV 79% predicted, TLC 77% predicted, TLCO 56% predicted, and KCO 77% predicted. All but 3 procedures were carried out by VAT: the median number of lobes sampled was 2 (>1 lobe in 86%), and diagnostic specimens were obtained in 97% (UIP 29%, RB-ILD and DIP 23%, HSP 12%, Sarcoid 10%, NSIP 7%, others 19%). For complications see Table. The mean length of stay was 5.2 days (range 1–44): in-hospital mortality and 30-day mortality were 1% and 3% respectively.

Conclusion Although SBx is here to stay, it has significant morbidity and mortality. Transbronchial cryobiopsy may in the future sit alongside SBx in the diagnostic pathway for ILD, but in addition to offering low morbidity and mortality it must also offer a high diagnostic yield.

Abstract P165 Table 1

Major complications	% of cases
HDU/ITU admission	6
Required re-intubation	3
Required tracheostomy	1
Acute renal failure	3
Empyema	1
Ileus	1
Minor complications	**% of cases**
Pneumothorax	6
Persistent air leak	4
Atrial fibrillation	1
Lower respiratory tract infection	11
Urinary retention	1
Wound infection	2

REFERENCE

1 Travis WD, Costabel U, Hansell DM, *et al*. An official American Thoracic Society/European Respiratory Society Statement: Update of the international multidisciplinary classification of the idiopathic interstitial pneumonias. *Am J Respir Crit Care Med* 2013;**188**:733–748.

P166 THE EMERGING ROLE OF AIRWAY CLEARANCE TECHNIQUES IN THE TREATMENT OF INTERSTITIAL LUNG DISEASE

[1]L Skevington-Postles, [1]S Akers, [2]P George, [1]G Housley, [1]J Beadle, [1]A Devaraj, [1]F Chua. *[1]The Royal Brompton Hospital, London, UK; [2]Chelsea and Westminster Hospital, London, UK*

10.1136/thoraxjnl-2016-209333.309

Introduction Patients with interstitial lung disease (ILD) may develop airway abnormalities as part of their underlying condition, in response to fibrotic/tractional dilatation or as a result of repeated bronchiolar infection. While current practice guidelines recommend the provision of pulmonary rehabilitation for ILD patients, no other interventions have been endorsed. We assessed the symptomatic need of patients with ILD for airway clearance techniques (ACT's) using a visual analogue scale, and whether, in those with fibrotic ILD, the presence of traction bronchiectasis was correlated with the need for ACT's.

Methods Over a 15-week period, data were prospectively collected on ILD patients who consented for detailed physiotherapy assessment and intervention. Those who reported a sensation of persistent secretion retention, frequent chest infections (>2 in 6 months) or those with pre-existing airway disease had a full clearance assessment. The radiological presence or absence of traction bronchiectasis was noted, as was evidence of other airway pathology such as bronchiolitis.

Results 30 ILD inpatients (16 females) were included in the study (Table 1). The commonest causes for admission were ILD staging (n = 10) and disease deterioration requiring intravenous treatment (n = 14). 27 patients (90%) required physiotherapy input and 11 patients (41%) required ACT's. 9 patients had positive sputum microbiology; of these, 3 were first isolates. 7 of these 9 patients had traction bronchiectasis on CT acquired within 3 months of assessment. One patient did not undergo CT. The presence of traction bronchiectasis correlated with a higher sputum microbial yield ($p < 0.05$) but not with a need for ACT ($p > 0.05$).

Conclusion Airway abnormalities are often not a principal therapeutic focus in ILD but symptoms related to mucostasis, recurrent infection and airflow limitation may be disabling. In this study, the majority of patients with positive microbiology had traction bronchiectasis. Although no firm conclusions can be drawn regarding the role of ACT's in their management, this intervention improved the yield of specimens for microbial analysis and facilitated pathogen-directed antimicrobial therapy. These findings suggest that a systematic physiotherapy approach including optimisation of airway clearance can benefit patients with parenchymal lung disease.

Abstract P166 Table 1 Patient demographics

Total patients, *n*	30
Age (year), mean (SD)	59.1 (15.7)
Gender, *n* females (%)	16 (53)
Length of stay (days), mean (SD)	11.3 (8.3)
Patients with traction bronchiectasis, (%)	17 (56.6)
Sarcoidosis	7
Idiopathic Pulmonary Fibrosis	5
Chronic Hypersensitivity Pneumonitis	5
CTD-ILD	3
Other*	10

CTD-ILD, Connective Tissue Disease – Interstitial Lung Disease.

*Other ILD diagnosis or suspected ILD.

P167 DOES ANTIFIBROTIC TREATMENT OUTCOMES DIFFER IN USUAL INTERSTITIAL PNEUMONIA BASED ON HRCT CRITERIA ESTABLISHED BY ATS/ERS/JRS/ALAT IN 2011?

C Ng, J Hornsby, D Anderson. *Glasgow Victoria Infirmary, Glasgow, UK*

10.1136/thoraxjnl-2016-209333.310

Background Idiopathic pulmonary fibrosis (IPF) is an age-related, progressive and irreversible lung disease.[1] The diagnosis of IPF is made using clinical history, pulmonary function testing (PFT), and radiological appearances of Usual Interstitial Pneumonia (UIP) on High Resolution CT (HRCT) Scanning provided other appearances have been excluded. The diagnosis is frequently made at MDT where the images are categorised into Definite UIP, Possible UIP, or Inconsistent with UIP using HRCT criteria.[2] In the west of Scotland, patients demonstrating definite or possible UIP patterns on HRCT with a FVC < 80% are considered for antifibrotic therapy. The aim of this study was to assess whether response to antifibrotic therapy in IPF is correlated with the aforementioned categories. The presence of pleural plaques was also considered.

Methods We retrospectively divided 170 patients into three categories: definite UIP pattern, possible UIP pattern, and UIP with pleural plaques. Serial pulmonary function test results were obtained and the change in FVC calculated. Treatment failure was defined as a change in FVC% predicted of >10% per year. The rate of treatment failure, overall mortality, 6-month and 12-month survival was compared between the three groups.