Conclusion Specialist MDT discussion influenced changes in diagnosis in 44.2% of patients. The majority of IPF cases discussed are external referrals. This has implications for design and delivery of specialist ILD services.

Case selection for Pirfenidone does not appear based on lung function differences. This has implications for guidelines for its use.

P30 EFFICACY OF PULSED CYCLOPHOSPHAMIDE AND METHYL-PREDNISOLONE THERAPY IN PATIENTS WITH PROGRESSIVE INTERSTITIAL LUNG DISEASE

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Introduction Therapeutic options for progressive interstitial lung disease (ILD) are limited, as no pharmacological intervention has been shown to improve mortality significantly. Intravenous (IV) pulsed cyclophosphamide and methyl-prednisolone are administered in some centres for rapidly progressive ILD, based on small clinical improvements in patients with ILD secondary to systemic sclerosis. We studied the outcome of patients with ILD who received IV cyclophosphamide and methyl-prednisolone therapy in our centre.

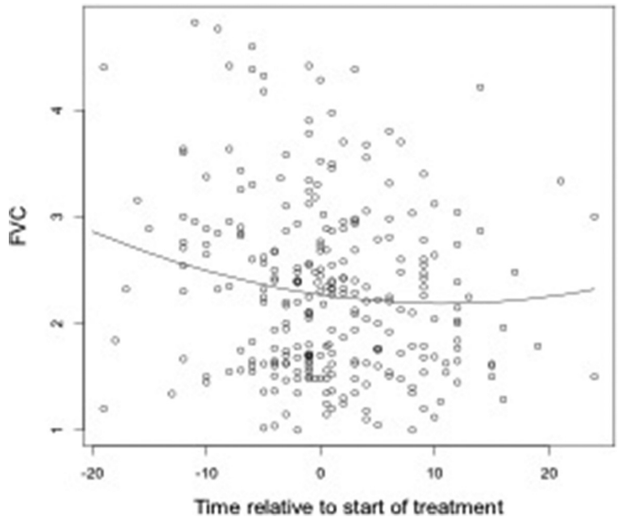
Methods Patients were identified from a database of those receiving cyclophosphamide. We reviewed the case notes of patients receiving IV cyclophosphamide between January 2010 to August 2014, comparing the rate of change in forced vital capacity (FVC) and transfer factor for carbon monoxide (TLco) before and after therapy. Adverse events were also recorded.

Results Records from 53 patients with a mean age of 60 years (range 39 – 81 years) were reviewed; 29 (55%) were male. Diagnosis included Connective Tissue Related-ILD (21), Idiopathic NSIP (12), Chronic Hypersensitivity Pneumonitis (8), IPF (6) and Undifferentiated-ILD (6). The median number of cyclophosphamide pulses received was 6 (range 1 to 23). After completion of cyclophosphamide, 41 (77%) patients received follow on immunosuppressive therapy in the form of mycophenolate mofetil (37 patients), azathioprine or rituximab.

The average rate of change of lung function was significantly less after cyclophosphamide therapy both for FVC (Figure 1) $p = 0.0004$ and TLco $p = 0.00015$.

Whilst on therapy 8 (15%) patients had bone marrow suppression (new onset neutrophil count $<2.0 \times 10^9$/l and/or platelet count $<140 \times 10^9$/l), 4 (7%) had elevated liver function tests, 3 (6%) had abnormal renal function, and one was investigated for microscopic haematuria. 32 episodes of infections were documented of which 21 were of respiratory origin. 25 (71%) out of 35 patients who suffered from an adverse event were able to complete therapy.

Conclusion In our single centre, retrospective study, pulsed intravenous cyclophosphamide and methyl-prednisolone was associated with stabilisation of lung function in a mixed cohort of patients with progressive ILD. Adverse events were common but transient and managed with dose reduction and/or delayed schedule.



Abstract P30 Figure 1 Showing data plots and average fitted quadratic curve for FVC of patients who received IV Cyclophosphamide therapy. FVC (litres); Time relative to treatment (months)

P31 A RETROSPECTIVE ANALYSIS OF INTERSTITIAL LUNG DISEASE SCREENING IN A REGIONAL CENTRE FOR PATIENTS WITH SCLERODERMA

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Background Interstitial Lung Disease (ILD) and Pulmonary Arterial Hypertension (PAH) are the major sources of morbidity and mortality amongst patients with Scleroderma. Specific autoantibodies, anti-Scl70 and anti-centromere (ACA), are associated with ILD and PAH respectively. Screening for ILD and PAH using annual pulmonary function testing (PFT), High Resolution Computed Tomography (HRCT) and Echocardiography respectively, is recommended by the BTS ILD Guidelines, 2008. However, the predictive value of autoantibodies and clinical screening for ILD and PAH, remains unclear in regional centres managing patients with Scleroderma. We hypothesised that an objective scoring system would elucidate lung phenotypes amongst the cohort and confirm original radiology reports for these patients, whilst patients autoantibody profiles would serve a clinical purpose in management. We retrospectively compared identification of ILD by a specialist ILD radiologist, against the use of predictive autoantibody profiling, for the detection of ILD.

Methods 99 patients with Scleroderma, managed in Nottingham, were identified from clinic lists (n = 68) or the pathology database, for positive anti-Scl70 and ACA results (n = 31). Autoantibody profiles (n = 77), including Extractable Nuclear Antigens (ENA) and Myositis Immunoblot, were accessed using the Nottingham University Hospitals Trust pathology database. Existing and accessible HRCT scans (n = 69), were evaluated, by a radiologist with a special interest in connective tissue disease-ILD. The Scleroderma Lung Study scoring system was employed, evaluating ground glass opacity, fibrosis, bronchiectasis and honeycombing in three anatomical zones. A binary logistic regression model evaluated the role of autoantibodies in ILD diagnosis.

Results On re-evaluation of HRCT (n = 69), eight scans had no evidence of ILD. 49 scans had evidence of ILD (NSIP = 41; UIP = 5; non-specific pattern of ILD = 3). Following comparison with the initial reporting radiologists' reports, twelve patients, with no previous diagnosis of ILD, were identified with the NSIP phenotype. The autoantibody model, using positive ACA and anti-Scl70 status, correctly classified 64.5% of cases overall (n = 62; p = 0.05).
Conclusions The role of objective HRCT evaluation, by a specialist radiologist, is superior in the detection of ILD, even in the ubiquitous NSIP phenotype, when compared to general radiology review and predictive autoantibody profiling of the same patients.

P32 ROLE OF NON ACID AND PROXIMAL REFLUX IN SCLERODERMA-ASSOCIATED INTERSTITIAL LUNG DISEASE

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Background Oesophageal involvement is extremely common in patients with scleroderma. This prospective observational study (NCT02136394) addresses the relationship between gastro-oesophageal reflux (GORD) and scleroderma-associated interstitial lung disease (SSc-ILD), and evaluates the clinical utility of noninvasive tests of microaspiration.
Materials and methods We present preliminary results of the first 27 enrolled patients (median age 59 [min/max 35/79], median FVC = 74% [38/128%], median DLCO = 39% [21/72%], female 70%, diffuse SSc 33%). Collected clinical data included 24 hr impedance (carried out off PPI), respiratory (K-BILD and Leicester cough questionnaires) and GORD symptom questionnaires (UCLA SCTC GIT 2.0 Questionnaire, Reflux Disease Questionnaire RDQ), as well as full lung function test data. Pepsin levels were measured in saliva in all patients, and in a subset of 6 patients in bronchoalveolar lavage (BAL).
Results Non acid reflux and proximal reflux were detected in 54% and 49% of patients, respectively. In the subgroup of patients with normal DeMeester score (i.e. global impedance index of acid exposure), 66% had non acid reflux episodes. The DeMeester score (median 14.2 [min/max 0.8/156]) was correlated with total scores GORD questionnaire scores (e.g. RDQ, r = 0.68 p = 0.003; GIT 2.0, r = 0.68 p = 0.004), but not with K-BILD, Leicester questionnaire, or saliva pepsin. Proximal reflux episodes were moderately correlated with the Leicester total score (r = -0.76 p = 0.002) and with saliva pepsin (r = 0.46 p = 0.05). Saliva pepsin (median concentration 2.34 ng/ml [2.34/12.4]) was correlated with the impedance cough index association (r = 0.53, p = 0.02). BAL pepsin was present in all six cases (median concentration 2.34 ng/ml [2.34/12.4]) and was correlated with FVC (r = -0.8, p = 0.04). Lung function test parameters were not correlated with saliva pepsin, but were significantly, if loosely, correlated with impedance measures of acid exposure in the recumbent position (e.g.% time of exposure, r = -0.43 p = 0.04).
Conclusions Proximal and non acid reflux are highly prevalent in the SSc-ILD population and are associated with a high symptom burden. Pepsin is measurable in BAL of SSc-ILD patients and suggests microaspiration into the lungs, although larger numbers are needed to confirm these findings and define whether saliva pepsin measurement could represent a useful non invasive marker of microaspiration.

P33 RITUXIMAB AS RESCUE THERAPY IN ADVANCED PROGRESSIVE SYSTEMIC SCLEROSIS ASSOCIATED INTERSTITIAL LUNG DISEASE

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Introduction Severe interstitial lung disease associated with systemic sclerosis (SSc-ILD) often has an inexorably progressive course. Prevention or retardation of disease progression (as seen in both SLS and the FAST trials) is the only realistic treatment goal in most cases. Rituximab is a B- lymphocyte depleting monoclonal antibody which has proven efficacy in a spectrum of treatment-refractory interstitial lung diseases. Data on the impact of rituximab therapy on SSc-ILD outcomes are limited.
Methods 18 patients with severe progressive SSc-ILD, despite conventional immunosuppression, were studied retrospectively. Serial change in FVC and DLco was quantified as percentage relative change from baseline, Pulmonary function trends pre (3–17 months) and post (3–11 months) Rituximab therapy were compared using paired t-testing.
Results 18 patients (four male), with a median age 57.5 (±15.9) received treatment with rituximab between 2012 and 2014. The median follow-up period was 7.96 (range 3.1–11.2) months. One patient died from heart failure. Rituximab was well tolerated. At the time of rituximab treatment, patients had severe pulmonary function impairment (median FVC 50.5%, range 36–84%; median DLco 25%, range 14–41%). On paired testing, there was a reduction in serial FVC decline following Rituximab therapy (-10.1% ± 7.8% versus -1.5% ± 8.7%, p = 0.01) and a similar reduction in serial DLco decline (-15.6% ± 16.8% vs. 1.0% ± 27.2%, p = 0.05).
Conclusion The addition of Rituximab was associated with a significant reduction in serial pulmonary function decline in patients with advanced progressive SSc-ILD, not controlled by intense conventional immunomodulation. These findings provide further support for the use of Rituximab as rescue therapy in severe SSc-ILD.

P34 SARCOIDOSIS AND CO-EXISTENT ASPERGILLUS LUNG DISEASE

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Sarcoidosis is a multisystem disorder which affects the lungs and in a small percentage of cases may result in fibrosis and cystic cavitating lesions. Chronic pulmonary aspergillosis (CPA) typically affects patients with underlying lung conditions; immunosuppressive therapy is not recommended due to risk of progression or spread of Aspergillus infection. Sarcoid patients