9 (26%) patients experienced mild side effects. FEV_1 improved significantly at 4 weeks (1.53 vs 1.41 p = 0.01). Leicester Cough Questionnaire improved significantly at 4 weeks (mean total score 13.7 vs 11.8 p = 0.0003) with a mean difference in LCQ of 1.9 (minimum clinically important difference MCID > 1.3[2]). St Georges Respiratory Questionnaire improved significantly at 6 months (mean total score 56.1 vs 67.8 p = 0.01) with a mean difference of 11% (MCID > 4%[3]).

Conclusions In this uncontrolled study, HTS was well tolerated and resulted in improved lung function and quality of life in patients with non-CF bronchiectasis.

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P105 OUTPATIENT SURVEY OF PATIENT EXPERIENCE OF HYPERTONIC SALINE USE IN NON-CYSTIC FIBROSIS BRONCHIECTASIS

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Introduction and Objectives Hypertonic Saline (HTS) is known to accelerate tracheobronchial clearance and is felt to provide a useful adjunct to physiotherapy for airway clearance in bronchiectasis[1]. Previous studies have demonstrated improvement in lung function, quality of life and healthcare utilisation with the use of HTS in non-CF bronchiectasis[2]. We have surveyed use and patient experience of HTS in our non-CF bronchiectasis clinic.

Method All patients seen in our non-CF Bronchiectasis clinic over a four month period were invited to answer a questionnaire. Questionnaires were filled in anonymously and either returned to a box in clinic or by post.

Results A total of 96 patients returned a questionnaire. Overall 114 patients were invited to respond, resulting in a response rate was 84%. 55 respondents (57%) were current or past users of HTS, with 36 (65%) of these still using HTS. 49 (89%) of those who had used HTS had done so for at least a month. The percentage of patients using HTS who indicated an improvement in Airway Clearance, Breathlessness and Quality of Life, were 80%, 60% and 67% respectively. Of the 19 patients who had stopped treatment, only 6 (32%) did so due to side effects. The total number of patients who had experienced side effects was 10 (18%).

Conclusion Our survey demonstrates that a significant proportion of attendees to our non-CF Bronchiectasis clinic are taking, or have taken HTS treatment. Continued treatment is supported by positive feedback by patients on impact on symptoms and quality of life, as well as reasonable tolerability and side effect profile.

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P106 LUNG CLEARANCE INDEX IS A REPEATABLE TEST OF LUNG FUNCTION AND SUPERIOR PREDICTOR OF CT SCAN ABNORMALITIES IN BRONCHIECTASIS

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Introduction In cystic fibrosis, lung clearance index (LCI) is a sensitive predictor of CT scan determined lung pathology. In bronchiectasis (BE) there is a need for improved markers of lung function to gauge disease severity and response to interventions in clinical trials.

Aims To assess if LCI is a repeatable and superior predictor of CT scan abnormalities compared with FEV_1 in BE.

Methods 60 patients with stable BE were recruited. LCI (using SF_6 multiple breath washout), spirometry and CT scores were collected. Health related quality of life (HRQoL) was measured using the St. George's Respiratory Questionnaire. A separate group of 30 BE patients were recruited and LCI, spirometry and HRQoL were assessed when clinically stable on 2 occasions, 2 weeks apart.

Results Mean (SD) age was 62 (10) years, FEV_1 76.5 (18.9)% predicted, LCI 9.1 (2.0) and total CT score 14.1 (10.2)%. FEV_1 negatively correlated with LCI (r = -0.51, p < 0.0001.) Across all CT score subscales, there was clear evidence of a relationship with LCI, with no or very weak evidence of any additional effect of FEV_1. The strongest correlations of subgroup CT scores with LCI were seen in),% parenchymal score (r = 0.56, p < 0.001), % mucus plugging (r = 0.49, p < 0.001),% total score (r = 0.55, p < 0.001)% bronchiectasis (r = 0.41, p < 0.01. There was no association for either FEV_1 or LCI with% airway thickening and for % bronchiectasis score and FEV_1. There were no significant associations between LCI or FEV_1 and HRQoL. The inter-visit ICC for LCI was 0.94 (95% CI 0.89 to 0.97, p < 0.001).

Conclusions LCI is a valid and repeatable test of lung function in BE. It is a superior predictor of lung function than FEV_1 in the detection of abnormalities demonstrated on CT scan. LCI is a useful test in patients with early lung disease or those with preserved spirometric scores. LCI also has the potential to be an alternative outcome measure to spirometry in clinical trials.

P107 IMPLICATIONS OF ADVERSE DRUG REACTIONS TO ANTIBIOTICS IN THE MANAGEMENT OF BRONCHIECTASIS

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Introduction and Objectives Antibiotic adverse reactions present a challenge when choosing appropriate treatment for patients with Bronchiectasis. We explored our data for antibiotic allergy and microbiological resistance in Bronchiectasis patients in a specialist clinic at the Queen Elizabeth Hospital Birmingham.

Methods We collected retrospective and prospective data on 243 patients from our Bronchiectasis clinic. We limited our microbiological data to colonised or most recent sputum culture.

Results We have 243 patients on our register. There were 84 (34.6%) males and 159 (65.6%) females. Bronchiectasis was confirmed in 234 patients with CT (Computerised Tomography) scan. The most common aetiology was post-infective.

80 (32.9%) patients had had an adverse drug reaction to at least one antibiotic. 24(9.8%) were allergic to penicillin and 50 (20.5%) were allergic to at least one antibiotic. 29 (11.9%) were intolerant of one or more oral antibiotics whereas 18 (7.4%) were intolerant of one or more nebulized antibiotics in this group.

Patients with resistant bacteria in their sputum showed a trend towards a greater likelihood of adverse reactions to antibiotics compared to patients with sensitive bacteria (31.5% v 17.8% p Value - 0.05). On subgroup analysis we found that the difference became statistically significant between people infected with resistant versus sensitive Pseudomonas Aeruginosa (46.7% v 42.1% p value–0.031).

Conclusions This is an interesting observation that patients whose sputum contained resistant organisms were more likely to have had adverse drug reactions to antibiotics. There is likely to be a causal relationship, and further study is required to identify whether the limited range of treatment options for patients with adverse drug reactions leads to a greater chance of antibiotic resistance in colonising organisms in sputum. Antibiotic allergies may have a detrimental effect on the management of patients with Bronchiectasis and therefore a resource implication in the subgroup of patients with adverse drug reactions. Potentially there may be a cost-saving in investigating patient-reported allergies aggressively.

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P108 THE BIOLOGY OF A BRONCHIECTASIS EXACERBATION: CHANGES IN DAILY PEAK EXPIRATORY FLOW RATE AND SYMPTOMS BEFORE, DURING AND AFTERWARDS

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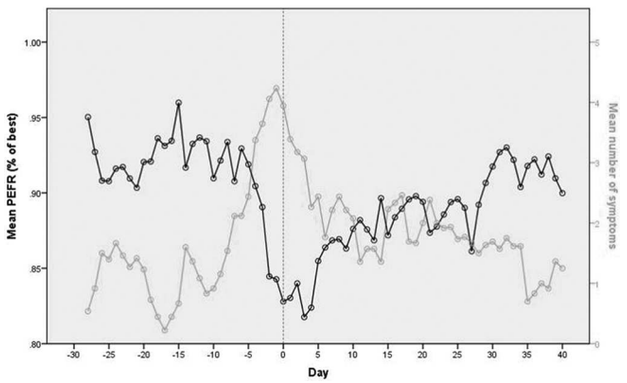
Introduction Exacerbations of bronchiectasis are a major cause of morbidity in this neglected chronic lung disease. Little is known about the biology of these, and detailed daily changes in lung function and symptoms during their prodrome, onset and recovery have not been previously described. We prospectively investigated how lung function and symptoms change before, during and after a treated exacerbation of bronchiectasis.

Methods Bronchiectasis was confirmed on previous imaging and aetiology was determined according to BTS Guidance. Patients recorded their best morning peak expiratory flow rate (PEFR) and completed a daily diary card recording up to 15 symptoms and any treatment changes. Patients were also asked to attend the clinic and undertake spirometry if symptoms worsened. PEFR (% of best) and forced expiratory volume in one second (FEV1) at exacerbation (% predicted) were compared to baseline values at least two weeks from exacerbation symptoms.

Results Between August 2010 and July 2012 there were 42 exacerbations in 18 patients; the first in each patient was included for analysis. 15 patients were female; mean age was 60.7 years (SD 11.2) and baseline FEV1% predicted 79(33) (FEV1/FVC ratio 0.70(18)). Aetiology was post-infectious in 9 patients, idiopathic in 5, and other causes in 4.

Between day -14 and day 0 (treatment initiation) there was a 9% drop in mean (SD) PEFR (92(6)% of best to 83(10)%, p < 0.001) and an increase in the mean daily symptom count from 1.2 (1.7) to 3.9 (2.1, p = 0.005). Figure 1 illustrates PEFR and daily symptoms across an exacerbation. Symptoms increase approximately 7 days prior to treatment start and PEFR drops 5 days prior. Following treatment initiation, symptoms improve faster than PEFR although recovery of both to pre-exacerbation values may take 30 days. There was no significant difference in the magnitude of the PEFR drop in patients with comorbid asthma (n = 5). There was a non-significant FEV1 drop of 1.7% predicted at exacerbation (n = 15).

Conclusions There is a significant drop in peak flow during exacerbations of bronchiectasis. This reflects changes in patients' symptoms and may persist for 30 days. Treatment was delayed for 7 days following the first rise in symptoms.



Abstract P108 Figure 1. Mean peak flow and daily symptom counts before, during and after an exacerbation in 18 patients. Day 0 was defined as the start of treatment with antibiotics.

P109 DO SPECIALIST NON-CF BRONCHIECTASIS CLINICS IMPROVE QUALITY OF CARE?

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Introduction Non Cystic Fibrosis (CF) Bronchiectasis is increasingly recognised as a major cause of respiratory morbidity in the UK. Previous BTS audits have shown poor adherence to the 2010 BTS guidelines for non-CF bronchiectasis. Specialist clinics for cystic fibrosis have been shown to improve survival and quality of life in CF bronchiectasis. The majority of patients with non-CF bronchiectasis are managed in general respiratory clinics. We hypothesised that the introduction of a specialist clinic for non-CF bronchiectasis would improve compliance with the BTS 2012 standards of care for non-CF bronchiectasis.

Methods Data was collected prospectively as part of the BTS national bronchiectasis audit 2012. All patients with bronchiectasis attending an outpatient respiratory clinic in Imperial NHS Trust between 1/10/12 to 31/11/12 were eligible for inclusion. Comparison between groups was performed using fischers exact test using GraphPad Prism software.

Results Forty patients attended a specialist bronchiectasis clinic, 56 patients were reviewed in a general respiratory clinic. Patients under the care of a bronchiectasis specialist were significantly more likely to have an individualised management plan (97.4% vs. 66.0% p = 0.002), to have their sputum sent for culture when clinically stable (82.5% vs. 55.4% p = 0.0018), and be