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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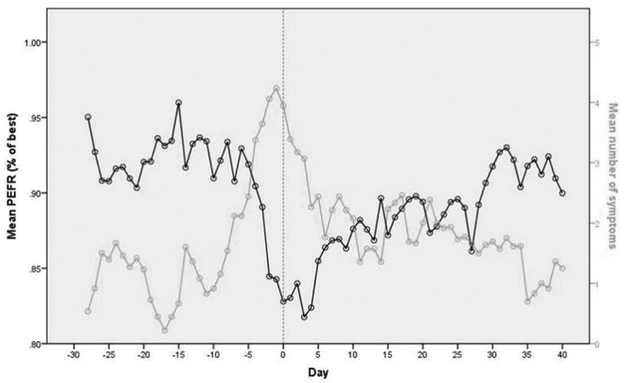
Introduction Exacerbations of bronchiectasis are a major cause of morbidity in this neglected chronic lung disease. Little is known about the biology of these, and detailed daily changes in lung function and symptoms during their prodrome, onset and recovery have not been previously described. We prospectively 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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10.1136/thoraxjnl-2013-204457.259

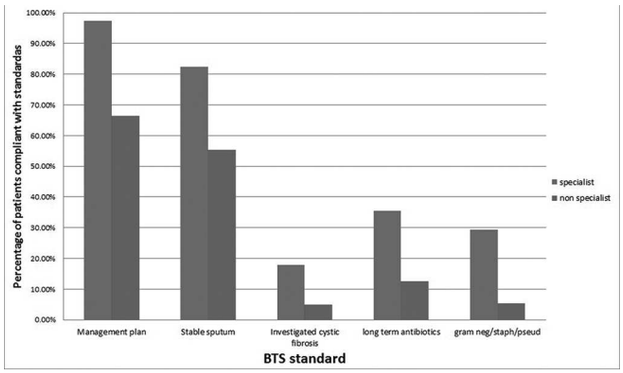
Introduction Non Cystic Fibrosis (CF) Bronchiectasis is increasingly recognised as a major cause of respiratory morbidity in the UK. Previous BTS audits have shown poor adherence to the 2010 BTS guidelines for non-CF bronchiectasis. Specialist clinics for cystic fibrosis have been shown to improve survival 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

investigated for cystic fibrosis (17.9% vs. 4.9% p = 0.007). They were significantly more likely to have grown a pseudomonas, staph aureus or a gram negative bacteria in their sputum in the last 12 months (29.4% vs. 5.4%, p = 0.0036) and be treated with either oral or nebulised long term antibiotics (35.0% vs. 12.5%, p = 0.012) graph 1.

Conclusions Patients attending specialist bronchiectasis clinics were more likely to be managed according to BTS quality standards. Specialist non-CF bronchiectasis clinics may improve quality of care. Further longitudinal studies are needed to investigate if specialist clinics improve clinical outcomes.



Abstract P109 Figure1 Comparison between specialist and non specialist clinics for management of bronchiectasis

P110 DOES PREVIOUS EXACERBATION HISTORY PREDICT FUTURE EXACERBATIONS IN NON-CF BRONCHIECTASIS?

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10.1136/thoraxjnl-2013-204457.260

Introduction The British Thoracic Society bronchiectasis guidelines recommend consideration of long term antibiotic therapy in patients with 3 or more exacerbations per year. A major goal of treatment in bronchiectasis is to reduce future exacerbation risk. It is not known how reliably a past history of frequent exacerbations predicts future exacerbations in bronchiectasis.

Methods Consecutive patients with non-CF bronchiectasis attending a specialist clinic in Tayside 2011–2012 were included. Patients commencing long term antibiotic therapy were excluded. Exacerbation frequency was obtained from patient histories verified against electronic antibiotic prescription data. Hospital admissions for severe exacerbations were recorded and the ability of prior exacerbation history to predict future hospital admissions assessed using the area under the receiver operator characteristic curve (AUC).

Results 90 patients with bronchiectasis were included. 54% were female with a median age of 67 years. The majority had idiopathic bronchiectasis (58%), followed by allergic bronchopulmonary aspergillosis (13.3%), post-infective bronchiectasis (8%) and connective tissue disease (5%). The median FEV1 was 74% (51–94) predicted.

In the first year of review, patients had a mean of 2.9 exacerbations (standard deviation 2.4), while in the second year, the mean number of exacerbations was 2.1 (standard deviation 1.9), p = 0.02.

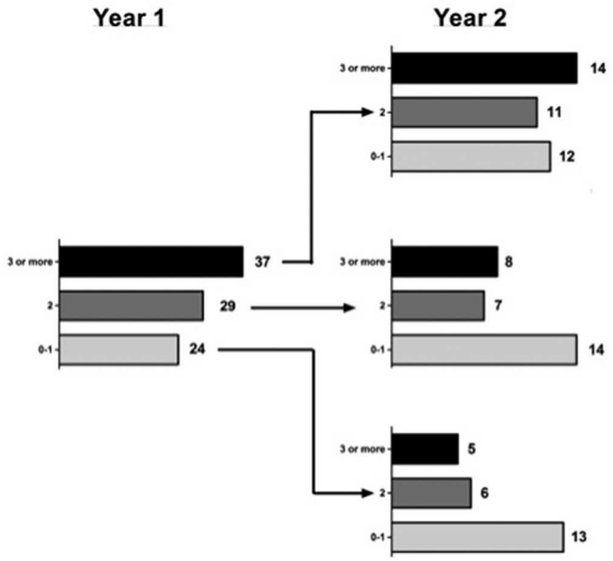
Patients with a history of 3 exacerbations in year 1 had a higher frequency of exacerbations in year 2 (2.5 vs 1.8, p = 0.03). The sensitivity of year 1 exacerbations to predict 3 or more exacerbations in year 2 was 52% (95% confidence interval 31.9–71.3%) with a specificity of 64% (50.4–75.3%)

Figure 1 shows the relationships between year 1 and year 2 exacerbation frequencies.

In a linear regression model, additional predictors of exacerbation in year 2 were FEV_1% predicted and chronic bacterial colonisation, independent of previous exacerbation frequency.

24 patients were hospitalised for severe exacerbations in year 2. Prior exacerbation frequency was only a modest predictor of future hospitalisation risk, AUC 0.72 (95% CI 0.61–0.83), p < 0.0001). **(Figure 1)**

Conclusion Prior history of exacerbations predicts future exacerbations and risk of severe exacerbations, but large variations in annual exacerbation frequency are observed. Other factors may need to be considered to more accurately identify patients at risk of future exacerbations and hospital admissions.



Abstract P110 Figure 1.

P111 AZITHROMYCIN PRESCRIPTIONS IN A TEACHING HOSPITAL–DO WE NEED TO MONITOR FOR ADVERSE EFFECTS?

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Introduction Azithromycin appears to have an important role in management of a number of conditions including non-CF bronchiectasis and COPD but with possible adverse effects including hearing loss and liver dysfunction that necessitate appropriate patient monitoring. We have examined our use of azithromycin and how we screen for complications in our Chest clinics.

Methods Data was collected on all azithromycin prescriptions provided at the Chest Clinic in a large UK teaching hospital over a 12 month period commencing 30-1–2012. In those patients receiving long-term azithromycin (≥12 Months), we collected data on parameters including sputum microbiology, previous NTM,liver function tests (LFTs), audiology testing and Qtc interval recording.