P180 AETIOLOGY OF BRONCHIECTASIS IN A NON-SPECIALIST SERVICE. HOW DOES COPD AFFECT THE PICTURE?

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Background In tertiary care, bronchiectasis (BE) patients are a highly selected group, often with a complex aetiology or associated disease. The national British Thoracic Society bronchiectasis audit provided us with an opportunity to characterise our secondary care bronchiectasis population. We hypothesised that the majority of bronchiectasis seen in our non-specialist service would be associated with chronic obstructive pulmonary disease (COPD). We therefore determined the prevalence of COPD/BE and compared investigation and management of COPD/BE patients to those with bronchiectasis alone.

Methods Patients with a clinical diagnosis of bronchiectasis were identified in respiratory outpatients between 1st October and 30th November 2011 during the national bronchiectasis audit period. Those with bronchiectasis confirmed on CT thorax were included. Data including aetiology, lung function and other investigations were retrieved from electronic records.

Results Forty seven patients were identified, age 65±17 years (range 19 to 88 years), 57% female. Forty percent (19) had COPD Other common aetiologies were post-infection (26%), asthma (21%) and idiopathic (11%). The table compares characteristics between bronchiectasis patients with and without COPD. COPD/BE patients were older and had a significantly greater pack year smoking history. Similar investigations were performed in the two groups. COPD/BE patients had significantly worse airflow obstruction and gas transfer than bronchiectasis patients without COPD COPD/BE patients were more likely to have *Pseudomonas aeruginosa*, Methicillin Resistant *Staphylococcus aureus* or coliforms cultured from sputum, but antibiotic treatment and prophylaxis was similar in the two groups. Other medications were similar in the two groups, although COPD/BE patients were more likely than those without COPD to be prescribed long acting anti-cholinergic medication.

Conclusion In our secondary care setting, COPD is the most common underlying condition associated with bronchiectasis. COPD/BE patients share many clinical characteristics with other bronchiectasis patients and have worse lung function and more pathogenic microorganisms isolated from sputum culture. The emerging association between COPD and bronchiectasis requires further research to improve the characterisation and management of this patient group.

P181 ADHERENCE TO TREATMENT IN PATIENTS WITH BRONCHIECTASIS INFECTED WITH PSEUDOMONAS AERUGINOSA

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Introduction Patients with bronchiectasis and *P. aeruginosa* infection are often prescribed a complex regimen of inhaled antibiotics, other respiratory medicines and airway clearance techniques (ACT). Current bronchiectasis guidelines recognise that adherence to treatment is important in this population but no published studies have determined the level of adherence to treatment in patients with bronchiectasis infected with *P. aeruginosa.*

Aim The aim of this study was to determine adherence rates to inhaled antibiotics, other respiratory medicines and ACT in patients with bronchiectasis infected with *P. aeruginosa*.

Methods Patients with bronchiectasis (confirmed by HRCT) were recruited from hospital respiratory clinics if they had a positive sputum culture for *P. aeruginosa* and were using inhaled antibiotics. Prescription refill data were used to calculate percentage adherence by dividing the amount collected by the amount prescribed, multiplied by 100. Participants were categorised as adherent (score≥80%) and non-adherent (score<80%) to inhaled antibiotics and other respiratory medicines using this method. Participants completed the modified Self-reported Medication-taking Scale for ACT (score 0–5; adherent score≥4, non-adherent score<4). Spirometry was performed according to ATS/ERS guidelines. Chi square tests were used for between group analyses.

Results 75 participants were recruited: 24M/51F; mean (SD) age 64 (8) yrs; FEV_1 61 (25) % predicted. Sixty-four (85%) participants were prescribed colomycin, 11 (15%) were prescribed tobramycin, 68 (91%) were prescribed bronchodilators and 65 (87%) were prescribed inhaled corticosteroids. All participants were prescribed ACT; active cycle of breathing techniques (n=39, 53%) and Acapella® (n=45, 61%) were most commonly prescribed. Eleven percent (16%) participants were adherent to all treatments. Fifty-two percent and 51% of participants were adherent to inhaled antibiotics and other respiratory medicines, respectively. Thirty-nine percent of participants were adherent to ACT. Adherence category varied significantly between inhaled antibiotics and other respiratory medicines (p=0.04), with 34% of participants being adherent to one treatment and not the other.

Conclusion Patients with bronchiectasis patients infected with *P. aeruginosa* have a high burden of treatment. Only 11% of patients were adherent to all treatments, half were adherent to medicines and even fewer were adherent to ACT, indicating that patients make decisions about which treatments to use.

P182 UNDERLYING CAUSES OF BRONCHIECTASIS IDENTIFIED IN A SPECIALIST NON-CF BRONCHIECTASIS SERVICE

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Introduction Identifying the cause of non-CF bronchiectasis can have important implications for future treatment. The British Thoracic Society (BTS) issued guidance for testing in bronchiectasis in 2010 but many of these recommendations are based on expert opinion only (grade D evidence). We describe the underlying causes identified using the BTS recommended testing regime at a specialist non-CF bronchiectasis service.

Methods The study included patients attending a tertiary bronchiectasis clinic over 1 year (April 2011-April 2012). The diagnosis of bronchiectasis was made by high resolution CT. Sputum microbiology for the previous 2 years was used to determine colonisation status. A respiratory physician and immunologist assigned the underlying cause after discussion, following standardised testing recommended by the BTS guidelines.

Results 88 patients had CT confirmed bronchiectasis. The median age was 66 years (Interquartile range 57–73). 39 patients (44.3%) were male. The median number of lobes involved on CT was 2 (IQR 1–3). 51 patients were classified as idiopathic. 14 patients had ABPA, 8 patients had connective tissue disease, 4 patients were classified as post-infective, 3 patients had inflammatory bowel disease, 3 patients had an identified immunodeficiency, 2 were classified as secondary to COPD, 1 patient had chronic reflux, 1 patient had a congenital malformation and 1 patient had Mounier-Kuhn syndrome.

In the idiopathic cohort, 19 patients were colonised with *Haemophilus influenzae*, 7 with *Streptococcus pneumoniae,* 7 with *Pseudomonas aeruginosa*, 4 with *Moraxella catarrhalis*, 3 with *Staphylococcus aureus* and 5 patients with enteric gramme negative organisms. The remainder were not colonised.

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Abstract P180 Table 1 Characteristics of bronchiectasis patients with and without COPD

Patient group	COPD (n=19)	Non-COPD (n=28)	P value
Demographics			
Age	70±13	62±19	0.122
Male gender	8 (42%)	12 (43%)	0.959
Pack year history	45±22 (n=12)	4±9 (n=16)	**<0.001**
Investigations requested (% patients)			
Immunoglobulins	17 (90%)	26 (93%)	0.683
Total IgE	9 (47%)	16 (57%)	0.510
Plasma electrophoresis	17 (90%)	26 (93%)	0.683
Aspergillus RAST or precipitins	9 (47%)	15 (55%)	0.676
Lung function tests			
FEV_1 (litres)	1.4±0.7 (n=12)	1.6±0.4 (n=21)	0.396
FVC (litres)	2.6±1.0 (n=12)	2.4±0.6 (n=21)	0.565
FEV_1% predicted	58±18 (n=12)	67±20 (n=21)	0.203
FEV_1% M	51±16 (n=11)	64±13 (n=19)	**0.026**
$DLCO_c$ % predicted	50±24 (n=11)	66±10 (n=19)	**0.013**
KCO_c % predicted	70±29 (n=11)	94±14 (n=19)	**0.004**
RV % predicted	166±42 (n=11)	144±39 (n=19)	0.170
RV: TLC (%)	59±12 (n=11)	52±8 (n=19)	0.096
Infection and antibiotics			
Pseudomonas/MRSA/Coliforms in sputum	14 (74%)	11 (39%)	0.019
Courses of antibiotics in past year (number)	3.3±3.0 (n=16)	2.7±2.7 (n=23)	0.581
Intravenous antibiotics in past year	5 (28%)	4 (14%)	0.252
Long term antibiotics	5 (26%)	5 (18%)	0.487
Nebulised antibiotics	2 (11%)	2 (7%)	0.683
Medication			
Inhaled corticosteroid	17 (90%)	23 (82%)	0.488
Dose inhaled corticosteroid (mcg)	1420±659	1670±997	0.399
Short acting β agonist	15 (79%)	20 (71%)	0.562
Long acting β agonist	17 (90%)	21 (75%)	0.216
Short acting anti-cholinergic	2 (11%)	5 (18%)	0.488
Long acting anti-cholinergic	11 (58%)	6 (21%)	**0.011**
Nebulised saline	2 (11%)	2 (7%)	0.683
Carbocysteine	7 (37%)	4 (14%)	0.073

In patients with an identified cause, 12 patients had *H. influenzae*, 5 had enteric gramme negative organisms, 4 had *P. aeruginosa*, 3 had *M. catarrhalis*, 2 had *S. aureus* and 1 patient had *S. pneumoniae*. None of the frequencies of organisms were significantly different between idiopathic and non-idiopathic groups (p>0.05 for all comparisons).

Conclusion An underlying cause of bronchiectasis could be identified in 42% of cases of non-CF bronchiectasis using the recommended testing protocol from the British Thoracic Society bronchiectasis guidelines. This emphasises the importance of testing for underlying disorders in bronchiectasis patients attending secondary care.

Clinical interventions in COPD

P183 RECRUITMENT TO COPD CLINICAL TRIALS FROM PRIMARY CARE PATIENTS

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Introduction Clinical trials in chronic obstructive pulmonary disease (COPD) have spirometric criteria for enrolment, and published screening failure rates against these criteria have been reported as low as 7%[1]. Primary care databases provide a source of patients with COPD to recruit into clinical trials. However, UK COPD lists are heterogenous, with only 73% having confirmed COPD when retested[2]. This may result in a higher than expected screening failure rate. We reviewed this using our experience of recruiting to a COPD trial through primary care databases.

Methods Local GP surgeries were requested to contact all patients on their COPD database after applying exclusion criteria for age and co-morbidities. Patients were sent an invitation letter with a reply slip to return directly to the study team and those interested in participating were contacted for screening spirometry and medical history. Surgeries were reimbursed up to £500 administrative costs. Patients fulfilled diagnostic inclusion criteria if the FEV_1/FVC ratio was <0.7 and FEV_1<80% predicted with a smoking history and without other obstructive lung disease.

Results Approximately 1400 letters were sent from 29 GP surgeries between February and July 2012; 283 replies were received by the study team (20%). Of these, 180 were not screened (125 [69%] declined to participate, 9 [5%] had diseases other than COPD, 9

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