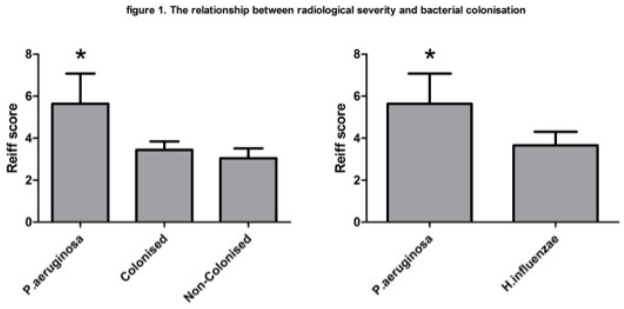
Among the other organisms isolated 29 patients had *Haemophilus influenzae* (Reiff Mean 3.7, SD 3.5). This mean Reiff score was significantly lower than for *P. aeruginosa*,(p=0.03) – figure 1.

Streptococcus pneumoniae (Reiff Mean 3.4), *Moraxella catarrhalis* (Reiff Mean 3.7) and *Staphylococcus aureus* (Reiff Mean 3.2), were also isolated in lesser numbers and a further 28 patients had a mix of other colonising organisms (Reiff Mean 3.5).

Conclusion More severe radiological bronchiectasis is associated with the presence of bacterial colonisation and particularly colonisation with *Pseudomonas aeruginosa*. This simple assessment of radiological severity may be a useful clinical tool in non-CF bronchiectasis.



Abstract P174 Figure 1 Radiological severity and bacterial colonisation

P175 THE SHORT TERM VARIABILITY OF SPUTUM MICROBIOLOGY IN NON-CF BRONCHIECTASIS

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Introduction It is recommended that non-CF bronchiectasis patients have sputum cultured annually. This prospective, cohort study is the first to collect monthly cultures to assess this practise by recording the short term variability of sputum bacteriology.

Method 85 patients with non-CF bronchiectasis and daily sputum production were recruited between December 2010 and May 2011. Patients completed daily symptom diaries, and spirometry and sputum samples were collected monthly for 6 months.

Results 58/85 were female, average age 58 (range 17–82). Most common aetiologies were idiopathic 41/85 and post infective 19/85. 64/85 completed follow up.

There were 417 sputum cultures of which only 265 cultured an organism (*incl. 130 Pseudomonas aeruginosa (PA), 37 Staphylococcus aureus, 34 Haemophilus influenzae*.) 10/64 patients grew no organism throughout the study despite monthly samples. 30/64 had one or more positive culture for PA, including 6 patients with first isolates. Of those with positive cultures, 28/64 patients grew the same organism in all positive cultures (15/64 grew PA only) whereas 26/64 had variability in the microbe isolated. A total of 37 exacerbations occurred at time of clinic visit. Of these 4/37 were associated with growth of a pathogen not previously isolated in this patient. However, 20/37 sputum samples at the time of clinical exacerbation showed no growth despite no prior antibiotic use. 22 patients used prophylactic antibiotics of whom 14 grew PA and 2 grew no organism.

122 infective exacerbations resulted in the use of 145 antibiotics courses. 14/64 had no exacerbations over 6 months. 9/64 had one and 41/64 had two or more (median 2). Spirometry and symptom scores remained relatively stable throughout the 6 months and were not significantly different in patients with ≥2 exacerbations.

Conclusion This study demonstrates the limitations of annual sputum cultures. There was significant microbe variability and importantly a significant number of first PA isolations over a short follow-up period. Furthermore, a large percentage of patients had no microbe isolated (including at exacerbation) suggesting a possible use of future molecular microbe techniques.

P176 COPD-RELATED BRONCHIECTASIS; A REAL CLINICAL ENTITY WITH IMPACT ON DISEASE COURSE AND OUTCOMES

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Introduction and Objectives Non-CF bronchiectasis is defined as 'symptoms of persistent or recurrent bronchial sepsis related to irreversibly damaged and dilated bronchi' [BTS guidelines 2010]. Radiographic evidence of 'damaged and dilated bronchi' can be seen on CT Thorax in up to 50% of COPD patients. However the contribution of radiographic bronchiectasis to the clinical course of COPD is not fully understood. We aimed to determine the impact of bronchiectasis on lung function, sputum microbiology and outcomes in COPD patients, independent of coexisting emphysema and bronchial wall thickening (BWT).

Methods COPD patients admitted with first exacerbation 1998–2008 were identified retrospectively using ICD10 codes J44.0,1,8,9. Patients with high resolution CT images within 2 years of admission were included. CT scans were graded by consensus of 2 senior thoracic radiologists for severity of bronchiectasis, emphysema and BWT on a 5 point scale (0-absent, 1-minor, 2-mild, 3-moderate, 4-severe). Operational definitions were set prior to scan review and radiologists were blinded to clinical parameters.

Results 406 patients (71±11years, 56% male, FEV_1 52±23% predicted) were included. 278 (69%) patients had bronchiectasis: minor, 112 (40%); mild, 81 (29%); moderate, 62 (22%); severe 23 (8%). There was considerable overlap between bronchiectasis and other pathologies (figure). Bronchiectasis severity correlated with severity of BWT (r=0.276, p<0.001) and emphysema (r=0.120, p=0.015). After adjustment for severity of emphysema and BWT, increasing severity bronchiectasis was not an independent predictor of lung function parameters, but independently determined isolation of *Pseudomonas aeruginosa* (Odds ratio (OR) 1.39 (95% CI 1.07–1.80), p=0.013) and atypical mycobacteria from sputum cultures (OR 2.44 (95% CI 1.04–5.69), p=0.040). After correction for increasing severity emphysema, BWT, age, gender and comorbidities, increasing severity bronchiectasis determined annual admissions (regression coefficient B=0.14 (95% CI 0.00–0.28), p=0.044) and inpatient days (B=2.1 (95% CI 0.8–3.4), p=0.001) for respiratory causes, but did not influence survival from first hospital admission (p=0.257).

Conclusions Radiographic bronchiectasis in COPD patients is associated with increased respiratory infection and hospitalisation, independent of coexisting emphysema and BWT. COPD-related bronchiectasis is therefore a diagnosis with important clinical implications. Further research should determine whether treatment strategies for non-CF bronchiectasis can improve the clinical course of COPD-related bronchiectasis.

P177 OUTCOMES OF PSEUDOMONAS AERUGINOSA (PA) ERADICATION IN NON-CYSTIC FIBROSIS BRONCHIECTASIS. FORCED VITAL CAPACITY (FVC) AND LATENT PERIOD FROM GROWTH TO ERADICATION ARE SIGNIFICANT VARIABLES IN ERADICATION SUCCESS

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