Management of non-CF bronchiectasis

P172 TIME TRENDS IN INCIDENCE AND PREVALENCE OF BRONCHIECTASIS IN THE UK

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Background The incidence of bronchiectasis in the UK is unknown. No large study has been performed in the UK since the 1950s[1]and there are few relevant data from non-UK sources. The prevalence is likely to be relatively high as bronchiectasis is a chronic condition, and case ascertainment is increasing with the wider availability of CT scanning. Establishing the healthcare burden is essential for informing allocation of healthcare resources and improving patient experience.

Methods All individuals in the general practise research database (CPRD-GOLD) between 1st January 2004 and 31stDecember 2011 were included. Currently this includes information from 640General Practises in the UK. From this cohort, patients with a diagnosis of bronchiectasis were identified using specific READ codes. We calculated the absolute incidence rates and prevalence of bronchiectasis by calendar year, age and gender.

Results Over the 8 year time period 27,258 individuals (0.7%) had a diagnosis of bronchiectasis. The overall incidence increased overtime; 2004 incidence 18/100,000 person years at risk and in 2011 the incidence was 32/100,000 person years at risk. Prevalence also increased year on year, was higher in older age groups (> 60 years of age) and was higher in women than in men. The prevalence in 2011 in men and women by age is provided in Table 1.

Conclusions Bronchiectasis is a relatively common condition in 2011 in the UK, particularly in individuals over the age of 60. Part of the increase in prevalence over time may be due to increasing numbers of CT scans being performed. How the prevalence relates to individual disease burden and health careutilisation is yet to be established.

References

1. Guideline for non-CF Bronchiectasis, British Thoracic Society (July 2010).

Abstract P169 Table 1 Prevalence of bronchiectasis per 100,000 in 2011 in men and women by age

Age Groups (years)	Prevalence in men per 100,000	Prevalence in women per 100,000
<30	33	35
30–39	55	73
40–49	97	146
50–59	303	420
60–69	639	862
70–79	1089	1320
≥80	1101	1079
Overall	227	309

P173 ETIOLOGICAL FACTORS FOR ADULT BRONCHIECTASIS IDENTIFIED BY A SPECIALIZED INVESTIGATION PROTOCOL

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Rationale Numerous factors have been identified as contributing to the development of bronchiectasis although their relative prevalence remains poorly understood. The Cambridge Centre for Lung Infection (CCRI) at Papworth Hospital has one of the largest specialist bronchiectasis units in Europe. All new patients referred with recurrent or severe chest infections undergo a systematic investigation protocol to determine an underlying cause for their lung disease involving: high-resolution CT (HRCT) scan; full pulmonary function tests; sweat testing and CFTR sequencing; nasal nitric oxide measurements; immunological test including serum immunoglobulins, specific antibody levels pre-and post vaccination, auto-antibody screening; Aspergillus serology and multiple sputum sample testing for conventional and mycobacterial microscopy and culture. We undertook an analysis of the results of these investigations to determine the relative contributions of causal factors in patients with bronchiectasis.

Methods We examined the results and case notes of all 352 patients referred to the CCRI with recurrent chest infections between January 1st 2009 and May 31st 2011. Of these, 202 individuals had HRCT evidence of bronchiectasis. The results of their initial investigations were analysed to determine the proportion of patients we could ascribe a likely cause for their bronchiectasis and whether this affected their subsequent management.

Results Using our investigation strategy, we were able to identify a likely cause in 139/202 (69%) patients, with 31% remaining idiopathic. Identifying an underlying cause frequently influenced subsequent patient management. Common causes included post-infection (22%), aspiration (7%), primary and secondary immune-deficiencies (4 and 6% respectively), and allergic broncho-pulmonary aspergillosis (6%). 5 new diagnoses of cystic fibrosis were made in patients aged 23, 26, 35, 53 and 64.

Conclusion This study represents the largest analysis of causative factors of bronchiectasis to date. Using our current investigation algorithm, we can ascribe a cause for bronchiectasis in almost 70% of new patients. Many of the underlying conditions diagnosed require specialist management.

P174 SEVERITY OF BRONCHIECTASIS ON HIGH RESOLUTION CT SCANNING AND ITS RELATIONSHIP TO CHRONIC BACTERIAL COLONISATION

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Introduction Bacterial colonisation and particularly colonisation with *Pseudomonas aeruginosa* is associated with a more severe clinical course in bronchiectasis. It is often presumed that patients with more extensive radiological bronchiectasis are at higher risk of chronic bacterial colonisation, but data on this is lacking. The aim of this study was to determine if severity of bronchiectasis on HRCT predicts chronic bacterial colonisation.

Methods Data was collected from a specialist bronchiectasis clinic from April 2011 to April 2012. A total of 88 patients were diagnosed with bronchiectasis following assessment by a respiratory physician and a high resolution CT scan. Sputum cultures from the previous 2 years were used to determine colonisation status.

The severity of disease on CT scanning was determined for each patient using a modified Reiff scoring system. This attributed to every lobe a score dependant on the type of Bronchiectasis seen and the number of lobes involved – Cylindrical=1, Varicose=2, Cystic=3. The minimum score is 1 and the maximum score is 18.

Results 88 patients had bronchiectasis confirmed on HRCT by a clinical radiologist. For each set of patients colonised with a particular organism the average Reiff score was calculated. 11 patients had *P. aeruginosa* (Reiff mean 5.6, SD 4.8). This score was significantly higher than those patients colonised with other pathogenic microorganisms (Reiff mean 3.4, SD 2.9) (p=0.03), and for patients not colonised with microorganisms (Reiff mean 3.0, SD 2.2) (p=0.005).-figure 1.