Abstract P89 Figure 1 (A) Change in bacterial community composition and abundance over 72 hours, the sample at each time point was compared to the sample frozen immediately. (B) Mean cumulative richness (emerging new bacterial species) and mean sample richness (total number of bacterial species in each sample). Error bars represent the standard error of the mean.

(NCFBr). We assessed the impact of factors associated with NCFBr disease severity on bone mineral density (BMD) and DEXA referral patterns in NCFBr.

Methods BMD reports from DEXA scanners were collected for all NCFBr patients from our specialist clinic database and T-scores for lumbar spine (LS), total left hip (TLH) and neck of femur (NOF) were recorded. Osteoporosis was defined as T-scores ≤ -2.5 , osteopenia between -1 and -2.5 and normal BMD ≥ -1 . FEV₁ values, exacerbation frequency and *Pseudomonas aeruginosa* chronic infection (defined as >1 positive sputum result in past 12 months) were recorded.

Results 336 NCFBr patients were identified attending the specialist clinic. 101 patients had DEXA scans performed (30%); 96 reports were retrievable. The male:female ratio was significantly different between scanned patients (29%:71%) and the entire NCFBr patient cohort (41%:59%); $p < 0.01$ (two-tailed chi-squared test). Osteoporosis was detected in the same percentage of scanned males as females (32%, any site). The prevalence of osteoporosis identified was similar across different scan sites (see table). Mean FEV₁ (% predicted) for DEXA-scanned patients was $58.2 (\pm 28.4)$, 24% were colonised with *P. aeruginosa* and mean number of exacerbations was $4.7/\text{year} (\pm 3.0; n=44)$. No significant correlation was found between T-scores (any site) and FEV₁ % pred values, *P. aeruginosa* colonisation or number of exacerbations.

Conclusion More than 40% of NCFBr patients have osteopenia and more than 25% have osteoporosis; this is higher than seen in COPD (e.g. NHANES, Schnell *et al*, 2012). Male patients had lower DEXA scanning rates suggesting referral bias favouring females. Low BMD is not predictable based on NCFBr "disease severity parameters". Greater emphasis on investigating NCFBr patients for osteoporosis, particularly males, may improve the incidence rate of fragility fractures in this patient population. Future studies on steroid use and osteoporosis incidence rates in this population would also be beneficial.

Abstract P90 Table 1 NCFBr patients with osteoporosis, osteopenia or normal bone mineral density measurements at different DEXA scan sites

Scanning site	BMD classification		
	Normal (%)	Osteopenia (%)	Osteoporosis (%)
Lumbar spine	28 (29)	44 (46)	24 (25)
Total Left Hip	32 (34)	38 (40)	25 (26)
Neck of Femur	22 (24)	43 (47)	27 (29)

P91 ANTI-IGE THERAPY: AN OBSERVATION IN CYSTIC FIBROSIS

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Introduction Cystic Fibrosis (CF) is characterised by the development of progressive cystic bronchiectasis. A proportion of patients have asthmatic elements which respond to conventional asthma therapy. Omalizumab (Xolair®, Novartis, UK) is a recombinant humanised monoclonal IgG which binds to IgE. We hypothesise that an IgE mediated component of airway inflammation in CF may respond to omalizumab.

Methods Seven patients mean age 31 (SD $\pm$ 12) years, serum IgE (30–1500), symptomatic despite maximal conventional therapy were administered omalizumab using standard dosing regimen in an open label fashion. The Asthma Control Test (ACT), Asthma Quality of Life Questionnaire (AQLQ) and FEV₁ were recorded at baseline and sixteen weeks post-treatment. Days of intravenous (IV) antibiotic in the year before and during therapy were compared.

Results There was a significant improvement in the mean ACT score from 11 ($\pm$ 3.7) to 17 ($\pm$ 5.9), $p=0.031$. AQLQ scores pre-omalizumab 49 ($\pm$ 15) vs. post-omalizumab 69 ($\pm$ 22), $p=0.156$; and %FEV₁ pre-omalizumab 42% ($\pm$ 13%) vs. post-omalizumab 45% ($\pm$ 14%), $p=0.078$ were not significantly improved. Similarly, the number of days of IV antibiotic usage declined with omalizumab treatment from 43 days ($\pm$ 24 days) to 25 days ($\pm$ 16 days) $p=0.297$, respectively.

Discussion This small study shows an improvement in symptom control in selected CF patients with omalizumab and other indices showed non-significant improvements, particularly IV antibiotic usage. Previous studies have demonstrated a correlation between exacerbation frequency in CF patients and the rate of decline in lung function. These findings warrant larger trials of omalizumab in 'asthmatic' CF.

P92 A RETROSPECTIVE STUDY TO EVALUATE THE USE OF NEBULISED MEROPENEM AT A LARGE UK ADULT CF CENTRE

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Background Meropenem is commonly used intravenously in CF patients infected with *Pseudomonas aeruginosa*, but there is limited evidence of its tolerability and effectiveness when used as a nebulised treatment.

Aim To evaluate the use of nebulised meropenem in our large UK adult CF centre.

Methods Medical records of patients who had trialled nebulised meropenem between 2008–2012 were reviewed for: demographics, lung function, BMI, sputum microbiology, indications and tolerability and number of exacerbations requiring IV antibiotics.