

160 Colonization of Cystic Fibrosis patients with *Aspergillus fumigatus* is a recurrent phenomenon

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Aims: *Aspergillus fumigatus* strains often colonize the respiratory tract of Cystic Fibrosis (CF) patients. Previous low discriminatory molecular typing assays suggested the majority of sequential cultured isolates to be of the same genotype. We used a novel high-resolution fingerprinting assay to analyze multiple *A. fumigatus* strains from CF patients.

Methods: We collected *A. fumigatus* strains from nine patients. From 6 patients each, two isolates were collected with a one year interval. From 3 patients, isolates were collected over a period of 3 to 4 years (3, 16 and 13 isolates respectively). All strains were analyzed using the STRAf (Short Tandem Repeats of *A. fumigatus*) assay.

Results: From 6 patients all inpatient isolates were of different genotypes. One patient with two isolates was colonized by the same strain over a period of one year. From the patient with 16 isolates, 13 different genotypes were found; two types were isolated more than once within a 5 months period. The patient with 13 isolates harbored four unique isolates and 3 clusters of 3 isolates were from the same type and succeeded each other during the last year.

Conclusion: Over a long period of time, different genotypes of *A. fumigatus* were found in most of the examined CF-patients. If the same genotype was found more than once, this only occurred in a short time period. Airway colonization of CF patients with *A. fumigatus* is appear to be a recurrent event. To substantiate this further more isolates from more CF patients should be analyzed.

162 BPI-ANCA predicts prognosis in CF

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Autoantibodies of ANCA type (anti neutrophil cytoplasmic antibodies) against bactericidal/permeability increasing protein (BPI) are associated with cystic fibrosis. Correlation with lung damage and colonization by *Pseudomonas aeruginosa* has been postulated. Here we investigate the prognostic value of BPI-ANCA.

BPI-ANCA in serum was measured by ELISA in 40 adult patients at one occasion in 1995–1998. The patients were then followed for between 1.2 and 7.0 years. At follow-up, 15 patients had severe adverse outcome in their cystic fibrosis lung disease (2 dead, 5 lung transplanted and 8 patients had significant loss of lung function.) Lung function was determined by spirometry and FEV1 was chosen as measure.

BPI-ANCA was found positive in 25 patients and in these patients severe adverse outcome was significantly overrepresented. To preclude that the predictive value of BPI-ANCA only reflect its' known association to lung damage, the patients were stratified according to lung function at inclusion. In patients with moderate lung damage, (FEV1%pred 50–80%), 7/10 BPI-ANCA positive patients had severe adverse outcome and only 1/7 BPI-ANCA negative patients had severe adverse outcome ($p=0.05$, Chi square test). In patients with severe lung damage (FEV1 %pred < 50%), 8/11 BPI-ANCA positive patients had severe adverse outcome. Only 1 patient was BPI-ANCA negative and although this patient had a favourable outcome, no conclusion can be drawn. When comparing all four groups, BPI-ANCA was significantly correlated to severe adverse outcome ($p=0.03$, Chi square test for trend)

The results implicate that BPI-ANCA reflect the disease activity of cystic fibrosis lung disease, and it may become a useful tool for predicting prognosis.

161 The impact of *Scedosporium* and *Exophiala* in sputum samples on the clinical progress of patients with CF

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Aim: The aim of this study was to investigate the effect of *Scedosporium apiospermum* (SA) and *Exophiala dermatitidis* (ED) infection of the respiratory tract on the clinical status of patients with CF.

Methods: We conducted a retrospective case-control study. Records of patients attending the Leeds Regional Paediatric and Adult CF Units were reviewed. Index cases were defined as patients with one or more sputum cultures +ve for SA or ED. Patients were matched with controls according to age, gender, % predicted FEV1 (%FEV1) and *Pseudomonas aeruginosa* status. Respiratory function tests, anthropometric data, Shwachman-Kulczycki score, chest x-ray score, frequency of intravenous, nebulised antibiotics and corticosteroid treatment were compared from 1 year before to 1 year after the isolation of the organism.

Results: From a clinic population of 600 plus, 10 (1.6%) affected patients were identified.

	Best % FEV ₁			
	Before isolation		After isolation	
	12 months	3 months	3 months	12 months
Index	57	55	58	60
Control	67	65	62	67

There was no significant difference in the change of %FEV₁, over the study period, between index and controls cases. BMI improved in index and control cases from 18.6 and 19.2 to 19 and 19.8 respectively.

Conclusion: Eradication of PA airway infection and the aggressive use of antibiotics may contribute to an increased risk of infection with unusual fungi and yeasts. Although both SA and ED are known to cause serious infection in immunocompromised patients their propensity for causing infection and deterioration in patients with CF is unknown. In this series infection/colonisation with these organisms was not associated with a decline in nutritional status or respiratory function over a 12 month period.