sessions, 3 months apart within 1-year period) and those with

Methods

Pseudomonas

Pseudomonas

between FIS scores and parameters of severity in nCF-Br, for

infected nCF-Br patients we aimed to measure the correlation

Pseudomonas

linked to markers of organ dysfunction (liver function tests). As

results in a prospective study.

Conclusion

This study demonstrated that Pseudomonas eradication

to lead to prolonged clearance of this organism and highly

significantly reduces exacerbation rate. This important outcome

requires confirmation in a prospective study.

S131

FATIGUE IN BRONCHIECTASIS: ITS RELATIONSHIP TO

PSEUDOMONAS COLONISATION, DYSPNOEA AND

AIRFLOW OBSTRUCTION

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Introduction and objectives

Fatigue is a complex and disabling symptom in non-CF bronchiec-

tasis (nCF-Br) and can be formally measured using the Fatigue Impact Scale (FIS). FIS

scores of >40 out of 120 are clinically significant. The FIS score has been shown to be

prognostic of premature death in Primary Biliary cirrhosis but is not

linked to markers of organ dysfunction (liver function tests). As

poorer outcomes have been recently reported in Pseudomonas

infected nCF-Br patients we aimed to measure the correlation

between FIS scores and parameters of severity in nCF-Br, for

example, Pseudomonas infection, degree of dyspnoea and airflow

obstruction.

Methods

FEV1% predicted, MMRC dyspnoea score (MMRCD) and

FIS were recorded in stable adult nCF-Br patients attending

specialist clinic. All previous sputum cultures isolating Pseudomonas

aeruginosa were reviewed. Two groups of patients were studied:

those with Pseudomonas‘ colonisation‘ (organism cultured ≥2 occa-

sions, 3 months apart within 1-year period) and those with ‘isola-

tion‘ (organism cultured ≥1 occasion). Statistical comparison used

χ², Fisher’s correlation and Mann–Whitney U tests.

Results

75% of patients had Pseudomonas isolation; 38 (33%) patients had

colonisation. Fatigue levels were similar in patients with and

without colonisation (median 48.5 vs 36.5, p=0.31). Significant

fatigue (FIS>40) was more common in patients with Pseudomonas

isolation (47%) than those with no previous isolates (p=0.04,

OR=2.2) However, fatigue levels, although increased, were not

significantly different (median FIS 50 vs 32; p=0.064). Fatigue

correlated with MMRC score (r=0.54, p<0.0001) but less well with

FEV1% predicted (r=0.2, p=0.04). FEV1% predicted was lower in

patients with Pseudomonas colonisation (median FEV1 49% vs 74%,

p=0.0007) and in patients with Pseudomonas isolation (median FEV1

52% vs 74%, p=0.002).

Conclusions

Pseudomonas infection (past or present) appears to be

associated with greater clinically significant fatigue scores and

poorer lung function. Fatigue doesn’t strongly correlate with FEV1% predicted but is correlated with MMRCD. Further regression anal-

ysis of variables is underway to understand these inter relationships

further. Systemic aspects of Pseudomonas infection may be different

to other infections explaining the divergence.

Clinical and translational observations in asthma

S132

AIRWAY DYSFUNCTION AND INFLAMMATION IN POOL AND

NON-POOL BASED ELITE ENDURANCE ATHLETES

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Introduction

Previous studies have suggested that eosinophilic airflow inflam-

mation is common in elite swimmers; the chemical pool

environment often blamed. We set out to address this question in

a cross-sectional study of 109 international athletes from a variety

of sporting backgrounds.

Methods

All had symptoms suggesting exercise-induced asthma and were

either inhaled corticosteroid naïve or withdrew these for

>4 weeks. β2-agonists, exercise and caffeine were withheld for 8 h

prior to testing. Symptoms were assessed using the Juniper ACQ,

airways dysfunction using the eucapnic voluntary hyperventilation

(EVH) test and airways inflammation using exhaled nitric oxide

(FENO) and induced sputum eosinophil % (eos). Athletes were

classed as pool based if they exercised in an indoor pool

environment for >5 h per week, and non-pool based if they exercised in a pool for

<1/2 h per week.

Results

Demographic details were similar. Mean (±SEM) % fall in

FEV1 post EVH was 18.96±1.701 (n=47) in pool and 11.39±1.249

(n=62) in non-pool athletes (mean difference 7.569; 95% CI 3.480

to 11.66; p=0.0004), 76% of pool and 39% of non-pool athletes had

a positive test (>10% fall). The geometric mean (log SD) eos (pool

2.667 (0.797), non-pool 3.060 (0.867), p=0.2,020), and FENO (pool

25.05 (1.570), non-pool 28.06 (1.475) ppb, p=0.914) was no

different between groups; 14.9% of pool and 12.9% of non-pool

athletes had eos >3%, % fall in FEV1 had good correlation with

log eos (r=0.551, p<0.0001); a 25% fall being the optimum (AUC

0.89, p<0.0001, sens 79%, spec 93%). Log FENO and log eos

correlated strongly (r=0.551, p<0.0001); FENO of >27 being most

predictive of eos>3% (AUC 0.912, p<0.0001, sens 78%, spec 92%).

Symptoms correlated poorly with either airways dysfunction or

inflammation.

Conclusions

Individual athletes with symptoms vary markedly in the

levels of airways dysfunction and inflammation expressed. There is more

airways dysfunction in pool athletes but not more

eosinophilic airways inflammation suggesting that the pool