European Respiratory Society
Annual Congress 2013

Abstract Number: 209

Publication Number: P1175

Abstract Group: 7.3. Cystic Fibrosis

Keyword 1: Cystic fibrosis **Keyword 2:** Infections **Keyword 3:** Lung function testing

Title: Cystic fibrosis: Achromobacter xylosoxidans colonized patients have more severe respiratory disease

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Body: Background: The consequence of Achromobacter xylosoxidans colonization on the respiratory function of cystic fibrosis (CF) patients is not well known. Methods: Case-control study including six A. xylosoxidans-colonized CF patients and 11 matched uncolonized controls. FEV_1, number of courses of antibiotics (nCA) and number of hospital admissions for respiratory reasons (nHAR) were compared in the two groups from T-3 (3 years before colonization) to T+3 (3 years after colonization). Results: nCA and nHAR were significantly higher from T-3 to T0, at T0 (colonization) and from T0 to T+3 in A. xylosoxidans-colonized patients than in controls ($p<0.05$ for all parameters). Median FEV_1 at T0 ($p=0.05$) and from T0 to T+3 ($p=0.03$) was lower and decrease in FEV_1 from T-3 to T+3 was faster ($p=0.05$) in A. xylosoxidans-colonized patients. Moreover, broncho-pulmonary aspergillosis occurred more often in A. xylosoxidans-colonized patients ($p=0.003$). When patients were compared to themselves over the periods T-3 to T0 against T0 to T+3, there was no difference for the variable studied, comprising respiratory function tests. Conclusions: A. xylosoxidans-colonized CF patients have inherently more severe respiratory disease than uncolonized patients. However, A. xylosoxidans colonization did not affect the evolution of respiratory function.