137 *Exophiala dermatitidis* in cystic fibrosis: prevalence and risk factors

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Aims: To prospectively assess the prevalence of *Exophiala dermatitidis* (ED) in respiratory secretions of patients with CF and to identify risk factors for its presence.
Methods: The results of all cultures performed over a 2 years period in non lung-transplanted patients were considered. To detect fungi, cultures were grown on Sabouraud Gentamicin-Chloramphenicol Agar medium (Becton-Dickinson) and incubated at 35ºC for 2 days and then at ambient temperature (15–25ºC) for 3 weeks. Group A included all patients with one or more sputum cultures + for ED, Group B ED– patients ⩾12 y.
Results: The study group included 154 patients (76M, 48% >18 y, median number of cultures/patient/2 years: 12). Out of 2.065 cultures, ED was isolated from 58 specimens (2.8%), in 9 patients (5.8%). All ED+ patients were PI and ⩾12 y of age. Comparison of Groups A and B (n = 90) revealed that isolation of *Aspergillus fumigatus* at the last culture of the study period was more frequent in patients from Group A (44.4 % *vs* 10%, p = 0.017). A larger proportion of patients homozygous for the F508 del mutation was also observed in this group (88.9% *vs* 48.9%, p = 0.052). There was no significant difference in terms of predominant bacterial pathogen or treatment.
Conclusion: ED was isolated in 5.8% of patients without lung transplant (9% >12 y). *Aspergillus fumigatus* colonization and genotype seem to be predisposing factors.

138 *Scedosporium* colonisation challenges in cystic fibrosis (CF) lung transplantation (LT) − a report of 7 monocentric series

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Scedosporium (S) spp. are associated with poor outcome in immunocompromised patients due to low susceptibility to conventional antifungal (AF) drugs. Azole arsenal recently provided 2 active drugs voriconazole (VRZ), posaconazole (PSZ). We present our experience in managing CFLT with S colonisation over the past 10 years.
All CFLT S+ were recorded with mycology, clinical outcome, immunosuppressants (IS) and AF data; S was assessed by direct examination on respiratory samples, specific cultures, morphologic identification, AF susceptibility (Etest®). Therapeutic drug monitoring (TDM) of both azole and IS were routinely performed using analytical methods.
Out of 122 CFLT (2000–09), we observed n = 7 S (7 *S. apiospermum* +1 *S. prolificans*), 5/7 before T, pre-treated with classical susceptibility (VRZ, PSZ) of isolates. Demographics – 19.9±4.4 yrs, 48.4±9.3 kg, 4M/3F – fitted our usual CFLT. LT surgery exposed to bronchial stenosis.
AF was introduced de novo (except 1 at S+) as VRZ (6) or PSZ (1);VRZ stopped (n = 3), 1 after 1 yr without relapse, 1 for photosensitisation with S fungal ball, ablation and PSZ, 1 for resistance and PSZ. Mean VRZ and PSZ maintenance doses were respectively 572±207 and 1550±638 mg/d with 1.4±0.7 and 0.8±0.6 mg/L; IS treatment were steroids, tacrolimus and adjuvants. Survival ranged from 12 to 102 mths after T, 2 died (BOS), 5 ongoing.
S colonisation may be controlled in CFLT, using de novo probably lifelong VRZ or PSZ. VRZ de novo is more appropriate if IV, but exposes to photosensitisation (n = 3) (skin protection) and neuropathy (n = 1). Azole PK variability in CF need higher dosage, long time to steady-state and careful TDM to achieve compliance with safe DDI management.

139 *Scedosporium apiospermum* colonization in cystic fibrosis patients: incidence and clinical outcome

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Introduction: The *Scedosporium apiospermum* is the second most frequent filamentous fungus that can be found in patients with CF after *Aspergillus fumigatus*. Filamentous fungi may contribute to the local inflammatory response and under special circumstances could be pathogenic and invasive.
Aim: The incidence of colonization by *Scedosporium apiospermum* in CF patients and its association with several clinical characteristics.
Population and Method: All 416 CF patients of our department (206 boys, 210 girls, mean age: 13.9 years) were surveyed for colonization with *Scedosporium apiospermum* during the last 3 years. Sputum cultures collected during their routine clinical visits or on admission to the hospital were inoculated on yeast exctract-peptone-dextrose agar plates. The colonization was associated with several clinical factors: the age of the patients, pancreatic function, chronic colonization with pseudomonas aeruginosa, chronic use of inhaled antibiotics, prolonged use of inhaled and systematic steroids.
Results: The incidence of *Scedosporium apiospermum* in our CF population was 2%. The mean age of the patients at the age of first colonization was 17.6 years. There was a strongly positive relation with chronic use of inhaled antibiotics ($p < 0.001$) and systematic steroids ($p < 0.001$). Colonization with *Scedosporium apiospermum* was not associated with any deterioration in patients' clinical condition, apart from one child, who developed signs of infection.
Conclusion: The intensification of therapy in CF patients with antibiotics and steroids may facilitate the colonization by *Scedosporium apiospermum*, so monitoring with suitable fungal culture methods is mandatory.

140 *Scedosporium apiospermum* seroprevalence study in a large cohort of patients with cystic fibrosis in France

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Scedosporium apiospermum (S.a) is an emerging filamentous fungus described as one of the major fungal agents responsible for chronic airway colonisation in cystic fibrosis (CF) patients. Although the significance of patients' respiratory tract colonisation by *S.a* is still unclear, this fungus may contribute to the local inflammatory response, and therefore to the progressive deterioration of lung function. We studied *S.a* seroprevalence in a large prospective cohort of CF patients and compared the clinical features of seropositive and seronegative patients. Serum samples from 395 CF patients were analysed retrospectively. Total antibodies against *S.a* were determined by ELISA using cytosolic antigens extracted by mechanical disruption. Patients' demographic and clinical data were obtained by a systematic review of medical records and univariate analysis was performed to compare the clinical characteristics of seropositive and seronegative patients. Antibodies against *S.a* were detected in 98 patients (24.1%), the median age of seropositive patients was 20.5 years [1.7–53 years]. The prevalence of immunisation against *S.a* regularly increased with age and reached 46% in patients older than 35 years. Results of univariate analysis revealed that seropositivity to *S.a* was associated with age, diabetes mellitus, *Aspergillus* spp airway colonisation and poor pulmonary function. In conclusion, our results show that an immune response against *S.a* can be detected in almost one-fourth of cystic fibrosis patients. The clinical relevance of the immunisation against *S.a* is unknown and a prospective study will be planned to evaluate the long-term clinical outcome of seropositive patients.