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Abstract (publication only)

Repeated isolation and simple identification of Trichosporon mycotoxinivorans, a novel fungal pathogen in a patient with cystic fibrosis

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Objectives: Trichosporon mycotoxinivorans is a recently described yeast and its association as fungal pathogen for patients with cystic fibrosis was reported for the first time in the USA in 2009. A 20-year-old male with cystic fibrosis died with histologically proven Trichosporon pneumonia. Here we report a second case of a cystic fibrosis patient with repeated isolation of T. mycotoxinivorans in respiratory specimens during the last 5 years. Methods: The identification of T. mycotoxinivorans from sputum and BAL was performed morphologically, using the API ID32C (bioMérieux), sequencing internal transcribed spacers and D1-D2 region of the ribosomal operon as well as MALDI-TOF mass spectrometry (Biotyper, Bruker Daltonics). Susceptibility testing was performed using a commercial microtitre system (YeastOne, Trek Diagnostic Systems). Results: The 29-year-old male patient with cystic fibrosis suffers from a chronic infection with Staphylococcus aureus, Stenotrophomonas maltophilia, and Pseudomonas aeruginosa. His lung function is moderaterly impaired with FEV1 of 60% predicted. He has a history of allergic bronchopulmonar aspergillosis in 2007 and was treated with oral and inhaled steroids. Trichosporon species was identified from sputum for the first time in 2007 based on phenotypic identification features. The organism then was repeatedly isolated till now. Attemps to treat Trichosporon with triazoles did not lead to an eradication but to an improvement of the symptoms. Molecular identification of the fungal organism resulted in T. mycotoxinivorans based on sequencing of internal transcribed spacers and D1-D2 region showing 100% similarity to reference sequences. Our 1167-bp-long sequence has been deposited in GenBank under accession no. JQ266092. MALDI-TOF analysis from colony material using the bacterial extraction protocol resulted in accurate species identification with scores higher than 2.2. As expected the susceptibility testing showed resistance to the echinocandins and variable susceptibility to the triazoles. Conclusion: We present the case of a cystic fibrosis patient with repeated detection of the fungal organism T. mycotoxinivorans during 5 years. A simple MALDI TOF procedure allows reliable and rapid identification of this novel fungal pathogen and therefore should facilitate further study on the reservoir and the epidemiologic link of T. mycotoxinivorans to cystic fibrosis patients.