TWO CASES OF HEART INFECTIONS CAUSED BY TRICHODERMA

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Trichoderma species are widespread, soil-inhabiting, ascomycetous fungi which are generally known as non-harmful microorganisms. In the biotechnology they are used as rich sources of various enzymes and antibiotics, while in the agriculture they have increasing popularity as plant growth promoters and biofungicides. However, the genus Trichoderma is also on the growing list of emerging fungal pathogens, Trichoderma strains have been detected in lung and skin infections, identified as the causal agents of peritonitis in patients undergoing peritoneal dialysis, and found to be disseminated in the brain, liver, stomach and heart of immunocompromised patients. Although clinical isolates have been reported from several different species of the genus, sequence-based identification of clinical isolates revealed that many of them had been misidentified, and that the majority of the pathogenic Trichoderma isolates belong to the species Trichoderma longibrachiatum. Here we report two cases of heart infections caused by Trichoderma strains.

A 71-year-old man with previous aortic valve implantation in his anamnesis presented in outpatient department in November 2015 with increased inflammation parameters, profuse diarrhea, fever, reduced renal function and elevated liver enzymes. Besides several, small, filament-like mobile structures, transesophageal echocardiography revealed a mass of 8x4 mm in size undulating vegetation. All blood cultures were negative for fungi. However culturing of two clinical samples - taken from the removed aortic valve and the wall of the aorta during his reoperation - revealed filamentous fungal growth after 48 hours of incubation. In spite of adequate antifungal therapy by voriconazole, the patient has died due to another cause.

In the second case the patient was a 75-year-old woman. This patient underwent the implantation of a pacemaker in 2009. Her pacemaker’s sac has become enlarged in February 2016. She was presented with erythematous and warm skin surface above her pacemaker. She had chills with no fever. Because of reasonable suspicion of the infection of pacemaker sac, her device was extracted during a surgical intervention. Inflammmable fluid was excreted from the pacemaker sac during her operation. Culturing of the intraoperative samples revealed growth of a filamentous fungus identified as Trichoderma sp. on basis of morphological examinations.
Both isolates were identified as *T. longibrachiatum* by the sequence analysis of a fragment of the translation elongation factor 1α encoding gene. Based on the literature, only 4 cases of *Trichoderma* endocarditis have been reported so far. The recent cases suggest that the species *T. longibrachiatum* should be considered as an emerging causal agent of heart infections.

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