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ePoster Viewing

Diagnostic mycology (incl molecular)

Fatal invasive pulmonary aspergillosis due to *Aspergillus pseudodeflectus* in a liver transplant patient: first case report

Nawel Ait-Ammar¹, Eric Levesque², Jean-Benjamin Murat³, Emilie Sitterlé⁴, Françoise Foulet⁵, Eric Dannaoui⁶, Jean-Claude Merle⁷, Françoise Botterel Chartier^{*8}

¹*Unité de Parasitologie - Mycologie, Département de Bactériologie Virologie Hygiène Mycologie Parasitologie, Dhu Vic, Chu Henri Mondor, Ap-Hp, 51 Avenue Du Maréchal de Lattre de Tassigny, Dynamyc Upec, Enva, Faculté de Médecine de Créteil, Créteil, France*

²*Service D'anesthésie-Réanimation, Chu Henri Mondor, Ap-Hp, 51 Avenue Du Maréchal de Lattre de Tassigny, Créteil, France*

³*Unité de Parasitologie - Mycologie, Département de Bactériologie Virologie Hygiène Mycologie Parasitologie, Dhu Vic, Ap-Hp, Chu Henri Mondor, 51 Avenue Du Maréchal de Lattre de Tassigny, Ea Dynamyc Upec, Enva, Faculté de Médecine de Créteil, Créteil, France*

⁴*Unité de Parasitologie - Mycologie, Département de Virologie, Bactériologie-Hygiène, Mycologie-Parasitologie, Dhu Vic, Chu Henri Mondor, Ap-Hp, 51 Avenue Du Maréchal de Lattre de Tassigny, Ea Dynamyc, Upec, Enva, Faculté de Médecine de Créteil, Créteil, France*

⁵*Unité de Parasitologie - Mycologie, Département de Bactériologie, Virologie, Hygiène, Mycologie-Parasitologie, Dhu Vic, Chu Henri Mondor, Ap-Hp, 51 Avenue Du Maréchal de Lattre de Tassigny, Créteil, France*

⁶*Université Paris-Descartes, Faculté de Médecine, Ap-Hp, Hôpital Européen Georges Pompidou, Unité de Parasitologie-Mycologie, Service de Microbiologie, Paris, France*

⁷*Service D'anesthésie-Réanimation, Ap-Hp, Chu Henri Mondor, 51 Avenue Du Maréchal de Lattre de Tassigny, Créteil, France*

⁸*Dhu Vic, Aphp, Chu Henri Mondor, Unité de Mycologie, Département de Microbiologie, Créteil, France*

Background: Liver transplant recipients are a population at risk for developing invasive aspergillosis and *Aspergillus fumigatus* is the most common species. However, other non-*fumigatus* *Aspergillus* species can be involved with reduced sensitivity to antifungal drugs. Accurate identification associated to antifungal susceptibility testing is essential for therapy adjustment. We report a case of invasive pulmonary aspergillosis due to *Aspergillus pseudodeflectus* in a liver transplant recipient. To our knowledge, this is the first reported case of invasive aspergillosis due to this species.

Case report: In May 2013, a 64 year-old woman with drug-induced fulminant hepatitis underwent liver transplantation in our University Hospital (Créteil, France). Prophylactic treatment with caspofungin was introduced due to aspergillosis risk factors consisting in hemodialysis and fulminant hepatitis. Six

weeks after transplantation, CT scan showed a right pulmonary opacity associated with an increase of galactomannan (index 5.4 (NI<0,5, Platelia *Aspergillus*[®], Biorad)) and β -D-glucan (236 pg/ml (NI<80, Fungitell[®], Cape Cod). Direct examination of BAL showed *Aspergillus*-like branching hyphae. Caspofungin was then switched to voriconazole. Culture of BAL grew with several colonies of a white to brown filamentous fungus with a velvety appearance. Microscopic examination of the colonies showed *Aspergillus* biserial conidial heads with curved conidiophores. The antifungal susceptibility tests (Etest[®]) revealed low MICs to echinocandins (0,016 and 0,5 mg/L for micafungin and caspofungin respectively) and amphotericin B (0,75 mg/L) but high MICs to azoles (4, 12 and 6 mg/L for voriconazole, itraconazole and posaconazole, respectively). After these results, voriconazole was switched to liposomal amphotericin B. The patient died one month after diagnosis from a refractory septic shock with multiple organ failure. No autopsy had been performed. A molecular identification of isolate, based on partial β -tubulin and calmodulin genes, was performed. A BLAST search in MycoBank revealed an identity of 99.8% to reference sequences of *A. pseudodeflectus* strain CBS 596.65 with a query coverage of 99.9%. This species belongs to *Aspergillus* section *Usti* and is very close to *Aspergillus calidoustus* previously reported in human pathology.

Conclusions: Our case reports an invasive pulmonary aspergillosis in a liver transplant recipient due to a species newly described in human pathology: *A. pseudodeflectus*. This species has lowered susceptibility to azoles.