Aspergillus fumigatus rhinocerebral abscess in a diabetic patient

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INTRODUCTION

Rhinocerebral mucormycosis is a major cause of severe mold infection in diabetic patients; albeit unusual, it contrasts with the rare rhinocerebral abscess caused by Aspergillus fumigatus (1,2,3). Here, is reported the case of a diabetic patient with abscess of left frontal sinus and ethmoidal labyrinths, where the single infectious agent isolate was A. fumigatus.

CLINICAL CASE

• 75 year-old Caucasian male;
• Hypertension, dyslipidemia and type 2 diabetes mellitus with renal and ocular involvement;
• Admitted due to generalized tonic-clonic seizure (GTCS) and a progressive mental deterioration over the past two weeks;

• Tests performed in the emergency department: plasma glucose 372 mg/dL, creatinine 1.92 mg/dL, normal sodium and potassium and arterial pH 7.38, with pCO₂ 37 mmHg and anion gap 13.1. A lumbar puncture was preformed and reveled 2 cells, glucose 219 mg/dL, proteins 1.24 g/L;
• Cerebral TC scan: lesions of ancient trauma involving the left frontal sinus and the medial and lateral walls of left orbit, and tissue fill of the left frontal sinus and ethmoidal labyrinths;
• Following five days: afebrile, exhibiting periods with consciousness and others without;
• Additional GTCS episodes studied by cerebral magnetic resonance (fig.1) → left frontal abscess;

• Drainage was made, content sent to microbiology cultures, and ceftriaxone, metronidazole and voriconazole prescribed;
• Two days later, when Aspergillus fumigatus was identified, voriconazole was switched to amphotericin B;
• Despite treatment, metabolic disorder and infectious process continued, and the patient died 39 days after admission to hospital and 22 days of therapy with amphotericin B.

MICROBIOLOGY

Samples of the frontal abscess were cultured in blood and chocolate agar for bacteriological exam and in Sabouraud dextrose agar for mycological assessment. In all media grew an A. fumigatus identified by morphological (fig.2) and microscopic (fig.3) characteristics.

The susceptibility testing was done following the microdilution CLSI protocol. The MICs (mg/L) were itraconazole (0.25), voriconazole (0.25), posaconazole (0.125), isavuconazole (0.25), amphotericin B (1), caspofungin (0.25) and anidulafungin (≤0.015).

CONCLUSIONS

The case here reported, an unexpected presentation of mycological rhinocerebral abscess in a diabetic patient, highlights the importance to perform all microbiological exams, whenever the infectious cause is likely. Correct and fast laboratory diagnosis will help adequate patient management.

REFERENCES