# *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 $pCO_2$ 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;

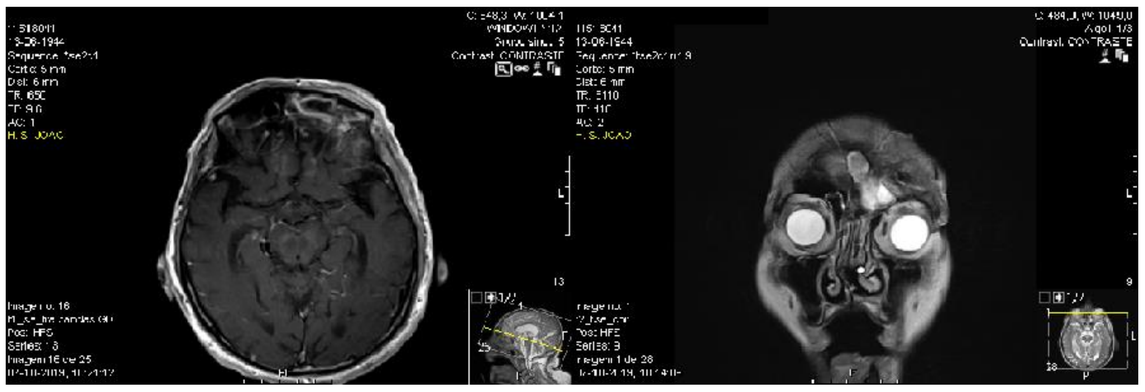

Figure 1

- 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.

Figure 2

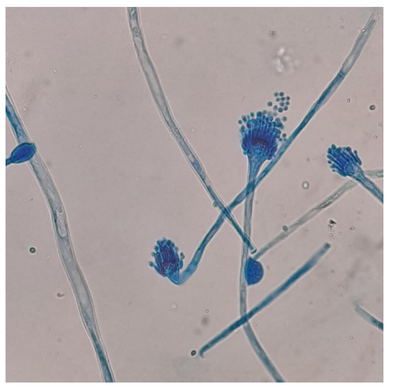

Figure 3

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

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