Cerebral Pheohyphomycosis Due to Curvularia species

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Introduction

Cerebral pheohyphomycosis is an uncommon but deadly infection caused by dematiaceous fungi which is often fatal, regardless of immune status of the patient (3). The infection can spread hematogenously to the central nervous system, typically after inhalation of the fungal spores or via wound contamination. Treatment usually requires a combination of surgical intervention and antifungal medications, with early intervention being crucial to improve chances of survival. We present a case of cerebral pheohypomycosis due to Curvularia species in an immunocompetent patient with symptom-free recovery following surgical excision only without concurrent antifungal treatment.

Case

A 23-year-old male with no known medical or surgical history presented with witnessed seizures and 30-lb unintentional weight loss over 3 months.

- MRI brain showed area of **discontinuous enhancement in the left inferior frontal lobe (2.7 x 1.6 cm) with extensive surrounding vasogenic edema.**

- Due to extensive unremarkable infectious disease workup and unresponsiveness to steroids and antibiotics, surgical biopsy was recommended by the tumor board.

- Hematoxylin and eosin (H&E)-stained sections of the frontal lobe showed **fungal encephalitis without neoplasia.**

- Fungal hyphae were identified within giant cell aggregates by **GMS and PAS-F special stains**.

- Definitive speciation was completed at University of Washington by fungal PCR detection (28S rDNA) and was significant for **Curvularia species.**

Images

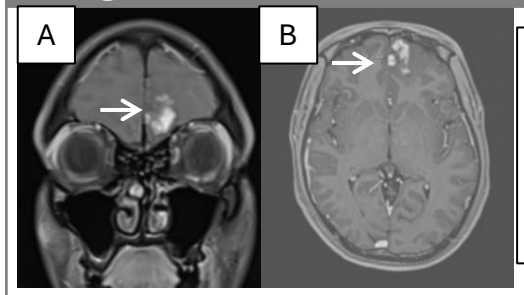
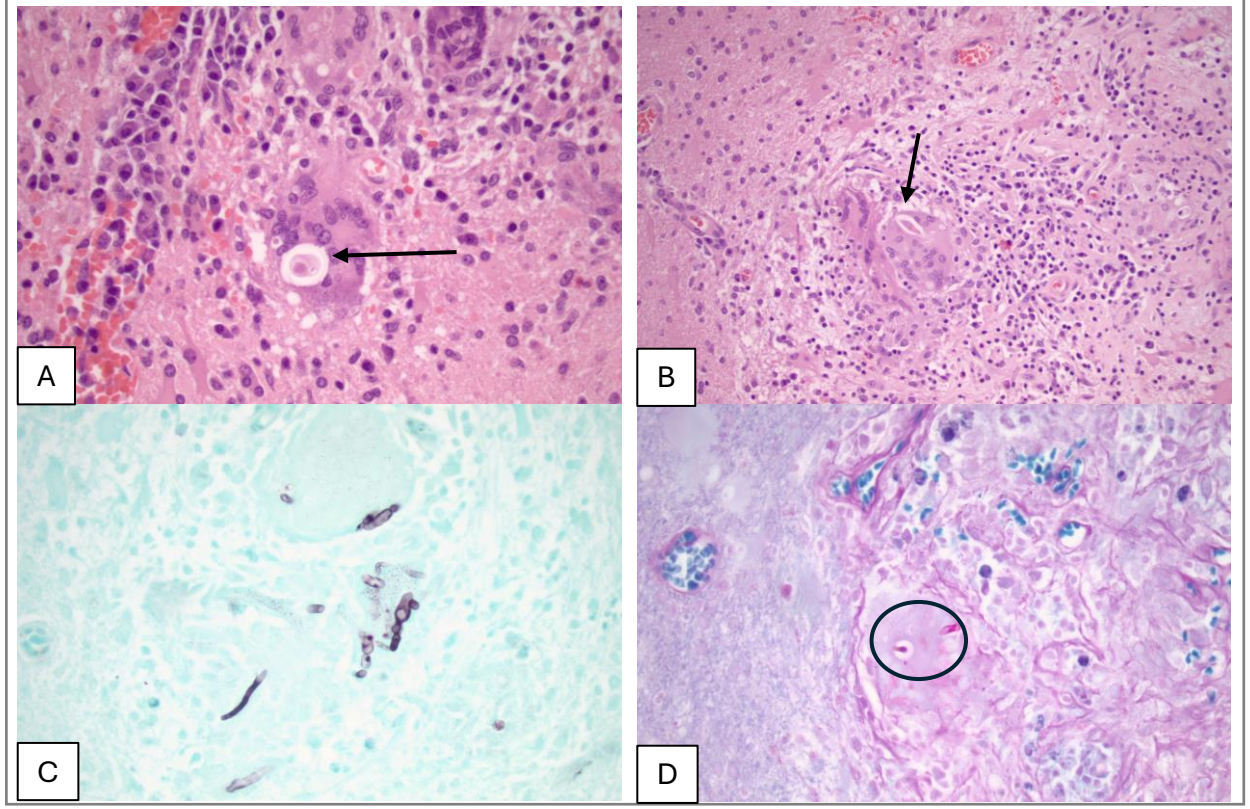


Figure 1. Coronal (A) and Axial (B) Brain MRI with multifocal enhancement of the orbital gyri region of the left frontal lobe, measuring approximately 2.7 x 1.7 cm.

Figure 2. Hematoxylin and eosin-stained sections (A [400x], B [200x]) are significant for reactive brain parenchyma with multinucleated giant cells containing fungal forms. GMS (C [400x]) and PAS-F (D [400x]) special stains confirm fungal hyphae within giant cell aggregates.



Discussion

Cerebral pheohyphomycosis in a young, immunocompetent patient with no prior surgical history is exceeding unusual.

The patient in this case was discharged against medical advice on post-operative Day 1 and did not follow-up with the Infectious Disease service as recommended. He did not present for recommended 6-month follow-up MRI.
He was admitted for unrelated traumatic injuries at post-operative intervals of approximately 1, 2, 6 and 8 months. Upon evaluation, he did not have progression of infectious symptoms and was free of seizure activity.

Cerebral phaeohyphomycosis due to *Curvularia* species is very rare and often lethal despite appropriate therapy. We consider the patient's symptom-free recovery following surgical excision only without concurrent antifungal treatment to be a clinical anomaly.

References

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