

Rhino-Orbital-Cerebral Mucormycosis in a Critically Ill Patient

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Case presentation

A 54 year-old Caucasian gentleman with history of diabetes presented to emergency department with complaints of facial swelling for one week and left orbital pain of one day duration. The patient underwent computed tomography (CT) scan of head with intravenous contrast which revealed inflammation of left medial rectus muscle and cellulites of medial left orbital coronal space deep to and surrounding the medial rectus muscle with some lateral deviation of the left eye. In addition, left maxillary sinus disease was noted. A tooth in the left maxilla with a fluid collection associated with its root communicating to the left maxillary sinus suspicious for tooth abscess related to sinus disease (Figure 1). The patient's white blood cells on presentation was elevated and his blood sugar was 597 mg/dL with a chemistry showing an anion gap of

34 and serum ketones. The patient was hypotensive with a systolic blood pressure of 70 mmHg and was admitted into the intensive care unit. After few hours of volume resuscitation the patient was taken to the operating room for orbital cellulites secondary to possible mucormycosis. Extensive surgical debridement ensued and emergent decompression of the left eye performed. The patient was started on liposomal amphotericin-B, and hyperbaric oxygen therapy. His course was further complicated by the development of brain abscess and cerebritis (Figures 2 and 3). The patient underwent bifrontal craniotomy with the evacuation of abscess, ablation of right frontal sinus and intracranial repair of skull base and dural defect. The patient post operative course was uneventful and patient was discharged home with no neurological deficit.

Key words: Mucormycosis, orbital cellulites, rhino-cerebritis.

Rhinocerebral mucormycosis is recognized as a potentially aggressive and commonly fatal fungal infection. Mucormycosis is a rare opportunistic necrotizing infection within the class Zygomycetes and the order mucorales. Mucormycosis is commonly seen in patients with diabetes, hemochromatosis, burns, leukemia, lymphoma, HIV and other immunocompromised status. Clinical course of the

infection typically begins with the symptoms of sinusitis or rhinitis with mucosal ulceration or necrosis. The infection disseminates to the orbit and cerebrum by direct extension as in our patient, or it may spread by vessels such as those of cavernous sinus. Imaging and early surgical debridement is essential in management of these patients.

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Figure 1. CT SCAN REVEALED THICKENING OF MEDIAL RECTUS MUSCLE AND SUB-ADJACENT MODERATE ANTERIOR ETHMOID SINUS MUCOSAL THICKENING



Figure 2. MRI HEAD AXIAL FLAIR SHOWING DIFFUSE EDEMA IN THE BIFRONTAL LOBE WITH MASS EFFECT ON THE FRONTAL HORNS OF THE LATERAL VENTRICLE

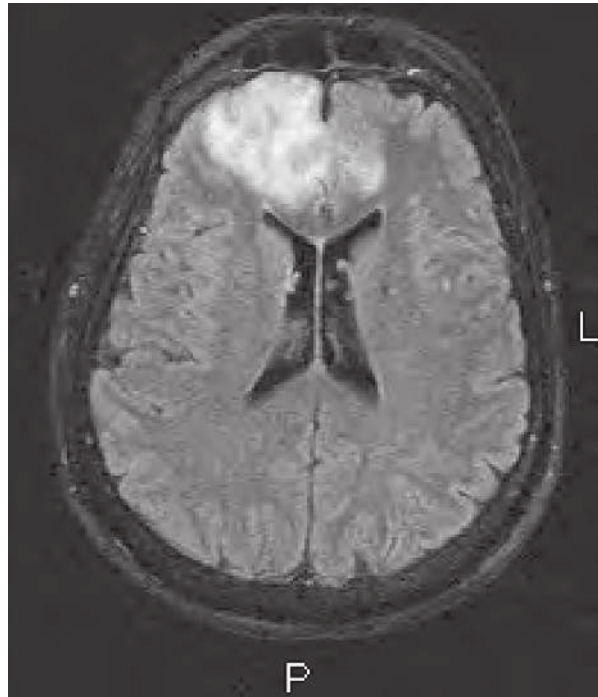


Figure 3. T SCAN REVEALED THICKENING OF MEDIAL RECTUS MUSCLE AND SUB-ADJACENT MODERATE ANTERIOR ETHMOID SINUS MUCOSAL THICKENING

