Invasive Sino-Orbital Fungal Infections In Immunocompetent Patient: Case Report

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Abstract

Background: Invasive sino-orbital fungal infections are rare but challenging conditions that can occur in immunocompetent individuals. These infections are often difficult to diagnose and can result in severe complications if not treated promptly. Mucormycosis and other fungal species can colonize the paranasal sinuses and, under certain conditions, progress to aggressive, locally invasive masses.

Objective: This case report aims to highlight the occurrence of invasive sino-orbital fungal infections in an immunocompetent patient, emphasizing the diagnostic and management challenges associated with these infections.

Case Report: A 57-year-old asthmatic man presented with left infraorbital pain and swelling lasting two months. Radiological investigations, including MRI and CT scans, revealed an extensive fungal mass involving the right maxillary sinus and orbital floor. An incisional biopsy confirmed the diagnosis of an aggressive fungal infection characterized by septate hyphae.

Management: The patient underwent surgical debulking and functional endoscopic sinus surgery (FESS) followed by orbital floor reconstruction with a Patient specific PEEK (Polyetherketone) implant to address the defect and prevent enophthalmos. Antifungal therapy with intravenous amphotericin B, followed by oral voriconazole was administered.

Outcome: The patient responded well to the treatment, with resolution of symptoms and improved visual function. Regular follow-up is ongoing to monitor for potential recurrence.

Conclusion: This case underscores the importance of considering fungal infections in the differential diagnosis of orbital floor pathologies, even in immunocompetent individuals. Early identification, a multidisciplinary approach with prompt treatment, including medical therapy and surgical intervention with possible reconstruction , are crucial for optimal outcomes.

Keywords

Fungal infection, Mucormycosis, orbital floor, immunocompetent.