

Case Report of Rhino-Orbital Mucormycosis Associated with COVID-19

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Abstract

Rhino-orbital mucormycosis is an uncommon invasive fungal infection caused by a fungus belonging to the order Mucorales. It is a life-threatening, fulminant disease with high rates of morbidity and mortality despite treatment. Immunocompromised patients are primarily affected, and it almost always occurs in patients with uncontrolled diabetes mellitus, especially those in diabetic ketoacidosis. The second wave of the COVID-19 pandemic emerged with increased reports of rhino-orbital mucormycosis, especially in India. It has been widely suggested that prolonged steroid therapy coupled with dysglycemia resulting from diabetes provides an excellent opportunity for fungal invasion. We report the case of a 64-year-old male admitted to our clinic in September 2024 with the presumptive diagnosis of right orbital cellulitis. The patient's history revealed recent COVID-19-related pneumonia, hospitalized in a different hospital, and type 2 diabetes mellitus with insulin treatment. After extensive paraclinical investigations, and given the rapid evolution of the clinical signs, despite intensive and complex therapy, we concluded the diagnosis of Rhino-orbital mucormycosis. Our case supports the hypothesis that the ominous triad of diabetes, corticosteroid use, and the background of COVID-19 determines the increased risk of mucormycosis, and that extensive research must be conducted to find the optimal treatment for these cases.

Keywords: COVID-19, rhino-orbital mucormycosis, corticosteroid, diabetes, immunocompromised patients