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CLINICAL SPECTRUM AND OUTCOME OF COVID-19 ASSOCIATED RHINO-ORBITAL-CEREBRAL MUCORMYCOSIS: A CROSS-SECTIONAL STUDY

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Abstract

Background. *Rhino-orbital-cerebral mucormycosis, a severe and often fatal fungal infection, has seen a notable rise in incidence among COVID-19 patients, particularly in regions such as Iran.*

Methods. *This cross-sectional study aimed to characterize the clinical spectrum, outcomes, and prognostic factors of ROCM in COVID-19 patients at a tertiary care hospital in southwestern Iran. Conducted from June 2021 to November 2022, the study included 48 consecutive patients with confirmed ROCM and COVID-19.*

Results. *The mean age of participants was 54.79 ± 14.22 years, with the majority (85.4%) having diabetes mellitus. Common clinical presentations included periorbital/orbital edema (60.4%), ptosis (62.5%), and chemosis (45.8%), while headaches were uncommon. Treatment modalities primarily included sinus endoscopy (93.8%), antifungal therapy (95.8%), and jaw debridement (43.8%). The study revealed significant morbidity, with 35.4% of patients experiencing unilateral blindness, 31.3% jaw deformity, and a mortality rate of 22.9%. Statistical analysis identified diabetes and sinus endoscopy as inversely correlated with mortality, while facial palsy showed a direct correlation. Age was significantly associated with periorbital edema, and hospital stay duration was correlated with sinus endoscopy, facial palsy, and nasal congestion.*

Conclusion. *These findings underscore the severe impact of Rhino-Orbital-Cerebral-Mucormycosis in COVID-19 patients, emphasizing the need for early diagnosis, aggressive management, and further research to improve outcomes in this high-risk population.*

Keywords: COVID-19, Rhino-Orbital-Cerebral-Mucormycosis, mortality rate.

Introduction

The order Mucorales and Entomophthorales are responsible for the fungal infection known as mucormycosis [*Kwon-Chung K J, 2012*]. Infections caused by this pathogen may arise from ingesting contaminated food, inhaling spores, or through wounds or skin breaches [*Benedict K, et al., 2016*]. In industrialized countries, zygomycosis mainly occurs in immunocompromised patients, whereas in other regions, a significant number of cases of mucormycosis occur in patients with uncontrolled

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