Rhinocerebral Mucormycosis: The Indian Scenario

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INTRODUCTION

- Mucormycosis is a rare opportunistic fungal infection with a fulminant course and high mortality rate.
- Caused by filamentous fungi of the Mucoraceae family.
- Rhinocerebral mucormycosis primarily involves paranasal sinuses but often progresses to involve the orbit and intracranially.
- Occurs in immunocompromised hosts with uncontrolled diabetes, hematologic malignancies and solid organ transplants.

MATERIALS AND METHODS

- 52 patients treated for rhinocerebral mucormycosis over a 5-year period (2013-2018) were analysed.
- Diagnosis was confirmed by histopathology
- Data regarding the age, sex, predisposing factor, clinical features, treatment, and outcomes were recorded.

RESULTS

- 52 patients
- Age: 6 months- 65 years
- Males: 28, Females: 24

Rhinomaxillary	8 patients
Rhino-orbital	34 patients
Rhinocerebral	10 patients

Predisposing factors

Clinical Features

Figure 1. Rhinomaxillary mucormycosis in a 45-year-old diabetic male

Figure 2. Mucormycosis in a 6-months-old infant

Figure 3. Mucormycosis involving the maxilla and orbit in a 60-year-old diabetic

Figure 4. Mucormycosis in a 40-year-old male

Treatment:

- All the patients underwent both surgical and medical management.
- Identification and treatment of predisposing cause
- Surgical debridement:
 - Endoscopic debridement: 20 patients
 - Partial/ infrastructure maxillectomy: 17 patients
 - Total maxillectomy: 11 patients
 - Orbital exenteration: 4 patients
- Antifungal treatment: Injection Amphotericin B

Figure 5. Mucormycosis involving the left infraatemporal fossa, parotid gland, and causing facial palsy in a 60-year-old diabetic

OUTCOMES

- Multiple debridement procedures were required in 10 patients
- Due to amphotericin B toxicity, its liposomal formulation was required in 28 patients
- Facial nerve paralysis persisted in all the 5 patients even after complete treatment
- Duration of hospitalization: 8-12 weeks
- **Mortality rate: 29% (15 patients)**
- Patients in diabetic ketoacidosis had a poorer outcome.
- All the 10 patients with intracranial extension developed cavernous sinus thrombosis with ophthalmoplegia and eventually died.
- Causes of death were intracranial extension (in 10 patients), sepsis (in 3 patients) and chronic renal failure (in 2 patients).
- On 1 year follow up, recurrence was seen in 4 patients.

CONCLUSION

- **EARLY DIAGNOSIS & TREATMENT**
- High morbidity and mortality
- Intracranial spread has poor prognosis despite aggressive medical and surgical therapy.
- Literature: mostly case reports or small case series. This is one of the largest case series reported till date.

1. Ketenci İ, Ünlü Y, Kaya H, et al. (2011). Rhinocerebral mucormycosis: Experience in 14 patients. *J Laryngol Otol* 125(8): e3.
2. Jung SH, Kim SW, Park CS, Song CE, Cho JH, Lee JH, et al. rhinocerebral mucormycosis: consideration of prognostic factors and treatment modality. *Auris Nasus Larynx*. 2009;36: 274-9.