All India Institute of Medical Sciences, New Delhi
Covid-19 Infection and Rhino-orbito-cerebral Mucormycosis
Treatment Organization & Guidance

ORGANIZATION OF CLINICAL SERVICES
• A multispecialty Mucormycosis Clinical team to be in place.
• To categorize patients as Covid +ve & Covid –ve.
  Admission as per above categorization
Many patients with Mucor are noted to be Covid RTpcr +ve at >10 days from onset
This may represent immunocompromise related persistence of Covid infection.

Why the surge in Mucormycosis
• COVID-19 has tendency to worsen diabetes and also precipitate diabetes in previously normal individuals
• The Covid 19 infection itself is associated with leucopenia and may lead to immune compromise caused by impaired or inappropriate immune responses.
• Immunosuppressive treatments are being widely used for treatment of Covid-19 infection.
• The severity of Mucor infection is largely dependent on the patient’s immunity and general health.
• Coexistence of Covid – 19 infection with high blood sugar levels, and immunosuppressive treatments would expectedly increase incidence and severity of Mucormucosis.
• Mucor infection may occur during Covid-19 infection, or after a few weeks of apparent recovery from it.

Checklist of sentinel signs/ symptoms to be monitored in patients admitted with Covid-19
➢ Nose and sinuses Mucor infection (relatively early disease)
  Early detection at this stage can enable early treatment and minimize complications.
  • Headache and nasal obstruction- especially if persistent or severe and not responding to pain medicines.
  • Nasal crusting and nasal discharge which could be brownish or blood tinged
  • Pain or loss of sensation on face
  • Discolouration of skin of face / localised Facial puffiness
  • Loosening of teeth/ discoloration or ulceration of palate
➢ Eye / Orbital Mucor infection (moderately advanced disease)
  • Eye swelling or redness, double vision, loss of vision, Eye pain, drooping eyelid
➢ Intracranial infection (very advanced disease)
  • II- VI Cranial nerve palsies (Cavernous sinus involvement); signs of MCA thrombosis

Treatment principles
Urgent intervention to minimize progression and mortality/ loss of eye
• Treatment of co-morbid illness/ blood sugar control & of Covid illness
• To review Covid treatments to minimize immunocompromise
• Twice daily evaluations as per Mucor Checklist above for progression to orbital/ intracranial involvement.
• Confirmation of Diagnosis by
  • KOH Smear/ Biopsy of involved lesion with appropriate precautions.
    Radiological signs in the initial phase may often be subtle and minimal and may not demonstrate florid sinusitis and bone erosion. Lack of these signs does not exclude the diagnosis
  • Antifungal treatment with Amphotericin B/ Posaconazole.
In situations of high clinical suspicion consider initiation of anti-fungal chemotherapy prior to microbiological confirmation
• Early surgical debridement after stabilization of systemic illness and ensuring facilities for post surgical care/ ventilation as anticipated.

For supplementary notes visit: https://drive.google.com/file/d/1Y8ENajoHbqWslZ3g6e60xJNdpf5pQS/view?usp=sharing