



KGMU Guidelines for the management of COVID-19-associated Rhino-Orbito-Cerebral Mucormycosis (C-ROCM)



Clinical suspicion of COVID-associated Rhino-Orbito-Cerebral Mucormycosis (C-ROCM)

Possible C-ROCM – Evaluation with Nasal Endoscopy

Evidence on imaging

Imaging + Laboratory evidence

Probable C-ROCM

Laboratory confirmation

Definite C-ROCM

Review medications every 72 hours (pending confirmation)

Induction therapy with Amphotericin-B (AMB):

Stage $\leq 3a$:

- AMB-D: 1.0-1.5mg/kg/day infused over 4-6hrs
 - Pre-infusion 500mL Normal Saline
- AMB-L/AMB-LC: 5mg/kg/day
 - Start with 10mg/kg if brain is involved

Stage $\geq 3b$: AMB-L: 5-10mg/kg

If AMB is contraindicated/not tolerated/renal failure:

- Intravenous/oral Isavuconazole
 - 200mg 8 hourly on days 1 & 2
 - 200mg once a day from day 3 onwards
- Intravenous/oral Posaconazole
 - 300mg 12 hourly on day 1
 - 300mg once a day from day 2 onwards

Duration: No guidelines; continue for 6-8 weeks, preferably with AMB for atleast 4weeks/as tolerated; weekly response evaluation

Surgical management: ENT, Ophthalmological, Maxillofacial and Neurosurgical assessment

Stage 1 to 3b

Stage 3c and 3d

Stage 1a: Turbinectomy
Stage 1b: Turbinectomy with removal of medial wall of maxillary sinus
Stages 1c-d: Local wide-excision

Stages 2a: Removal of medial & anterior wall of maxillary sinus + removal of sinus mucosa + devitalized bone
Stage 2b: 2a + medial bony wall of orbit*
Stage 2c: 2b + palatal aggressive wide curettage till healthy bone is seen, extraction of mobile teeth, irrigation with H₂O₂, Iodoform dressing, Immediate obturator*
Stage 2d: 2c + curettage and saucerization of the involved segment of mandible and extraction of mobile teeth*

Stages 3a-b: As above \pm Retrobulbar Amphotericin-B 3.5mg/mL

Stage 4 a-b

Stage 4 c-d

Stage 2c-d protocol plus

- Orbital exenteration \pm Sinus irrigation with Amphotericin-B 1mg/mL

Rapid deterioration (≤ 72 hours)

Stage 4a-b protocol plus:

- Intracranial debridement
- Tapping of brain abscess
- Raised ICP: Decompressive craniectomy (Stroke), Ventriculo-peritoneal shunt (Hydrocephalus)

#AMB: Amphotericin-B (D:Deoxycholate; LC: Lipid Complex; L: Liposomal

*Consider adjuvant Hyperbaric oxygen therapy: 6 days a week at 2.5 ATA for 90 minutes