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Clinical-Medical Image

Young Patient Treated for Rhinomaxillary Mucormycosis Who has Juvenile Diabetes – A Case Report

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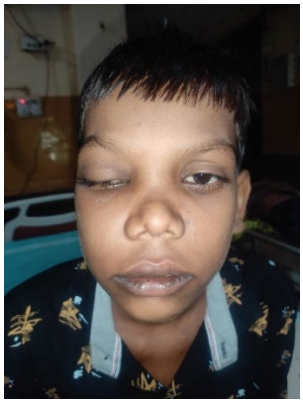
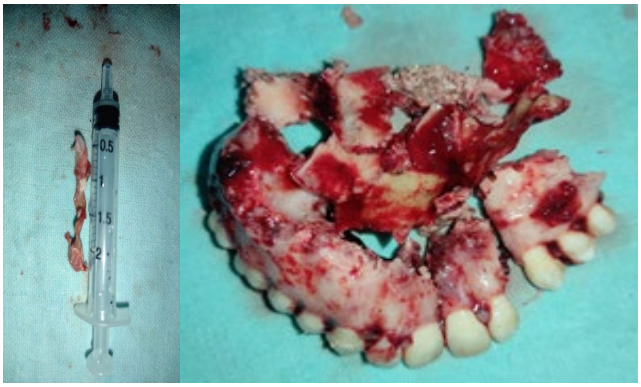


Figure 1: Blurring of vision since 6 days.

Figure 2: Soft palate measuring approximately 4 × 2 cm in size, vestibular obliteration.

Figure 3: Exposure of affected maxilla.



Figures 4,5: Infraorbital nerve and affected maxilla.

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Figure 6: Defect after surgery.

Figure 7: Obturator and amphotericin pack placed.

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A 14 year old male patient came with a chief complaint of unilateral swelling in the right side of the face, nasal discharge, pain on the right side and difficulty in breathing since 1 month. Patient had juvenile diabetes and diabetic ketoacidosis. Patient was on iv insulin. On extra oral examination there was mild facial deformity due to the circumorbital swelling on the right side, tenderness was positive on palpation, crepitus was present in the right maxillary region. Eye movements was normal and complaint about blurring of vision since 6 days (Figure 1). On intra-oral examination a whitish necrotic lesion was present on the right side of the palate just lateral to the incisor extending towards the soft palate measuring approximately 4 × 2 cm in size, vestibular obliteration was present on the right side with no carious teeth (Figure 2).

On radiographic examination Mucosal thickening noted involving bilateral maxillary, bilateral sphenoid and bilateral ethmoid sinuses. The internal contents exhibit T1 hypointensity, T2 hyperintensity which on post contrast study shows peripheral enhancing mucosa and non-enhancing central components. There is bony erosion involving medial wall of right maxillary sinus and right inferior turbinate. Right orbit shows extraconal and retro-orbital fat stranding with bulky and hyperintense right inferior rectus and inferior oblique muscles. Periosteal enhancement of orbital walls noted on lateral aspect, inferior aspect and medial aspect. Right optic nerve is bulky, hyperintense and shows perineural enhancement. Soft tissue hyperintensity with post contrast enhancement noted in right peri- orbital, right premaxillary and right pterygoid space and bilateral infratemporal fossa regions (R>L). Peripherally enhancing abscesses noted in right premaxillary region measuring 16 × 10mm. No obvious abscess in infratemporal fossa regions. Meningeal thickening and enhancement noted in right anterior temporal fossa region with adjacent hyperintensity in right greater wing of sphenoid. Adjacent brain parenchyma shows focal areas of FLAIR hyperintensity consistent with encephalitis. Right cavernous sinus thrombosis noted with thrombosis of right ICA in cavernous segment.

Features are consistent with acute pansinusitis of fungal etiology with right orbital cellulitis, myofascial cellulitis and intracranial extension. Based on the clinical and radiological findings a provisional diagnosis of aggressive fungal sinusitis was made. The patient was started on IV Liposomal Amphotericin B 1.0mg/kg/day, Tab Posaconazole, intravenous antibiotics and analgesics. Diabetes was controlled with insulin injections. Surgery was planned obturator fabricated and complete removal of affected maxilla was done under GA. Infra orbital nerve was removed due to its involvement, FESS was performed to remove the sinus lining and an amphotericin pack and obturator was placed (Figures 3-7).

Amphotercin dressing was done every second day for 2 weeks, followed by BIPPS packing and promoting the secondary healing, patient was administered IV Liposomal Amphotericin B 1.0mg/kg/day, intravenous antibiotics and analgesics for 3 weeks, along with insulin therapy to control diabeties. patient was discharged with oral antibiotics and analgesics and advised for regular follow up visits, strict glycemic control and proper nursing care, Reconstruction of the defect was delayed due to the active infection, current systemic condition and age of the patient.

Conclusion

Fungal infections like mucormycosis need aggressive treatment modalities to save the life. Mucormycosis treatment includes rapid diagnosis, correction of underlying co-morbidity, surgical enucleation or resection with appropriate anti fungal therapy. Liposomal Amphotericin B along with surgical intervention is the first line of treatment for this condition.

Keywords: Mucormycosis; Aggressive fungal sinusitis; Covid 19; Juvanile diabeties.

Conflict of Interest

None of the authors have any conflict of interest to disclose.