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A Case study of Unilateral Proptosis in Fungal sinusitis

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Abstract
Proptosis is one of the common manifestations of orbital pathology it can be the only symptom of nasal and paranasal sinus disease. Careful attention for the cause and precise diagnosis is essential for favourable outcome.
Case Report
This report presents a 32 yr. old female patient with proptosis and watering of left eye. On examination there was slight restriction of movement of extraocular muscles on medial gaze. CECT PNS revealed minimally enhancing elliptical mass 3*1.3cm along medial wall of left orbit abutting the optic nerve in orbital part. Endoscopic sinus clearance with debulking of firm mass was done and biopsy of left extraconal mass was sent for histopathological examination. Fungal culture and sensitivity revealed Aspergillus flavus
Conclusion
The aim of this report is to highlight the atypical presentation of sinonasal pathology and to present the diagnosis and management of unilateral proptosis case secondary to chronic reactive fungal sinusitis in immunocompetent patient.

Keywords: Proptosis, Extraconal mass, Fungal Sinusitis

Introduction

Background

Proptosis is a common manifestation of disease involving the orbit where fungal sinusitis account for only 15.9%.[1] Immunocompetent patients with chronic sinusitis develop a non-invasive hypersensitivity response to extramucosal fungi found within the sinuses.[2]The chronic granulomatous invasive fungal sinusitis occurs in immunocompetent hosts and majority cases are found in areas with dry climates, such as India, Sudan, and Saudi Arabia.[3]The presentation of proptosis is of significant importance as it may reflect the cause and in some cases could be the only manifestation of paranasal sinus pathology.[1,4]
The aim of this report is to present the diagnosis and management of unilateral proptosis case secondary to chronic reactive fungal sinusitis in immunocompetent patient.

The Case

A thirty-two-year-old Punjabi female presented with a 12 weeks history of painless proptosis of left eyeball with watering of left eye.
She had no other medical co morbidities. A plastic ruler used to compare both eyes revealed asymmetry of more than 2mm in favor of left eye proptosis. On examination, the patient was afebrile with fully intact sensorium. Visual acuity was 6/6 with normal intraocular pressure. The proptosis was non pulsatile with clear cornea. The pupils were normally reactive to light. There was slight restriction of movement of extraocular muscles on medial gaze.

Pre op

Fig.1: Left eye proptosis.

Rigid rhinoscopy examination revealed deviated nasal septum to right with spur on left side. Posterior choana and middle meatus clear on both sides.

Complete blood count, Erythrocyte sedimentation rate, Thyroid stimulating hormone were within normal range. CT scan revealed minimally enhancing elliptical mass 3*1.3cm along medial wall of left orbit, not separately defined from superior oblique and medial rectus with relative sparing of their tendinous insertion abutting the optic nerve in its orbital part and causing mass effect in the form of left proptosis.

Soft tissue density materials are seen partially opacifying soft tissue density material are seen partially opacifying Left ethmoid air cells, left maxillary, left sphenoid sinus suggestive of sinusitis.

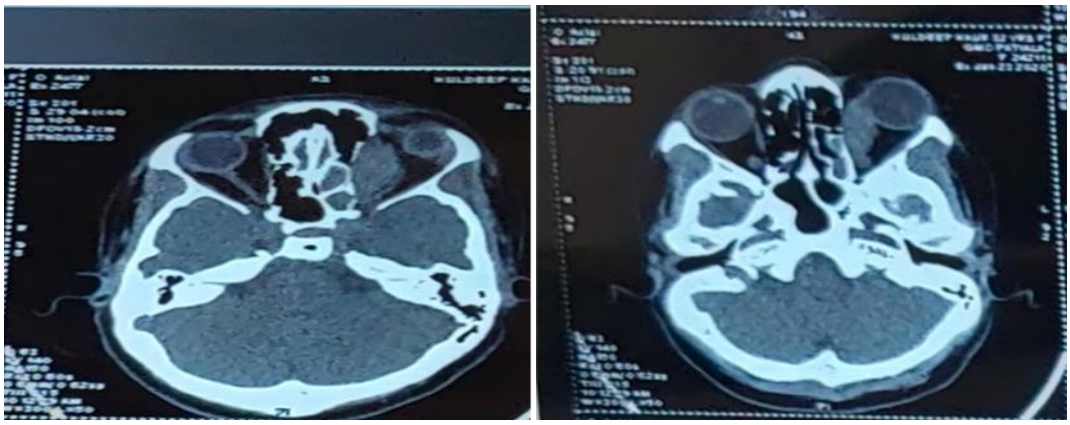

Fig.2: CECT PNS showing minimally enhancing elliptical mass 3*1.3cm along medial wall of left orbit abutting the optic nerve in orbital part.

MRI Orbit with Brain revealed asymmetrically thickened left orbital extraocular muscles-Medial rectus and superior oblique with mass effect on optic nerve and left sided proptosis. And suspected fungal sinusitis involving left ethmoidal air cells with doubtful orbital extension.

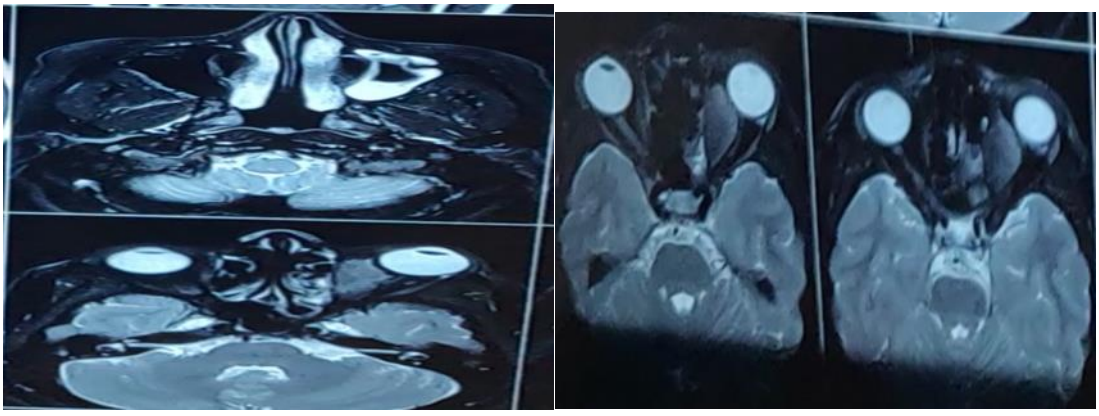

Fig 3: MRI Brain with Orbit showing asymmetrically thickened left orbital extraocular muscles with mass effect on optic nerve.

Endoscopic sinus clearance with debulking of firm mass was done and biopsy of left extraconal mass was sent for histopathological examination

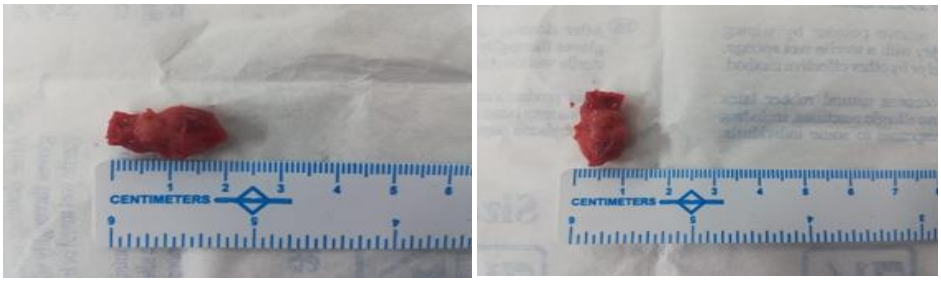

Fig.4: Firm extraconal mass debulking

Fungal culture and sensitivity revealed Aspergillus flavus. Histopathological diagnosis of Chronic granulomatous invasive fungal sinusitis was confirmed. Post operatively the patient was put on oral itraconazole for 6 months. After 6 months endoscopy showed a clear sinonasal cavity with no residual disease.

Discussion

Chronic granulomatous invasive fungal sinusitis is a peculiar disease of paranasal sinuses due to its rarity, patient subset and disease course. Clinically, a patient having Chronic granulomatous invasive fungal sinusitis may have all the symptoms of chronic rhinosinusitis .[5]

In our case the challenge lied in varied and nonspecific clinical presentation with no sinonasal symptoms and proptosis being the only manifestation of paranasal sinus pathology. In a similar study conducted by Nasir M[6] Unilateral proptosis was the only presenting symptom of fungal sinusitis. Such patients are frequently misdiagnosed which worsens the condition and may lead to grave complications

Unilateral proptosis can be a presentation of neoplastic, inflammatory conditions and endocrinological disorders like grave's disease. CT and MRI Imaging can reveal the sinus pathology, but a biopsy of the sinus tissue is the gold standard for accurate diagnosis.[7]

There is a lack of studies regarding surgical options and their outcomes in Chronic granulomatous invasive fungal sinusitis. Rupa et al[8] have suggested a protocol for CGIFS management based on a staging system using clinical features and radiological findings of the disease extent.

In our case the combination of surgical debridement and antifungal therapy was given and there was no residual disease till date.

Conclusion

Unilateral proptosis could be the only manifestation of paranasal sinus pathology So early diagnosis, avoidance of steroids and multidisciplinary approach with combination of surgery and antifungal agents is crucial in management and more studies are needed to improve the patient outcomes.

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