

Case Report

Relative Uncommon Cause of Proptosis

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Thin bony plates of the para nasal sinuses make two thirds of the walls of the orbit. A lesion in para nasal sinus may affect the orbit and at times cause displacement of the globe by decreasing orbital volume. The purpose of this case is to reemphasise the importance of rhinological examination and sinus radiology as one of the preliminary investigations in all cases of proptosis so that proper diagnosis could be made early and effective treatment instituted in time.

CASE REPORT

A young frail female Farzana 16years by age presented to out patient department with complaint of progressive proptosis of right eye with swelling of right cheek. She had no history of rhinorrhea or chronic sneezing. On examination her vision was 6/6 in both eyes. Anterior chamber was quiet. Pupil was reactive and equal on both sides. Fundus examination revealed no abnormality. Extraocular movements were normal.

On Ultrasonography there was a mass behind the globe pushing it forward. CT scan showed opacity in the ethmoidal sinus extending to the orbit with destruction of lamina propria.

MRI was done with T1W, T2W, Flair and fat suppression sequence. It showed a soft tissue density in the ethmoidal sinus and orbital junction which

measured 23x25x35 mm. It was irregular in shape, poorly demarcated and showed heterogeneous signal intensities. Definition of nasal septum, turbinates and lateral wall of the nose was partially lost. The lesion was pushing the eye ball in opposite site. The lesion was extending superiorly upward to base of skull but no intracranial extension. Orbital muscles were inseparable from space occupying lesion in the vicinity. Her ESR was raised, blood sugar was within normal limit, Hb was 7gm% and monteaux test was negative.

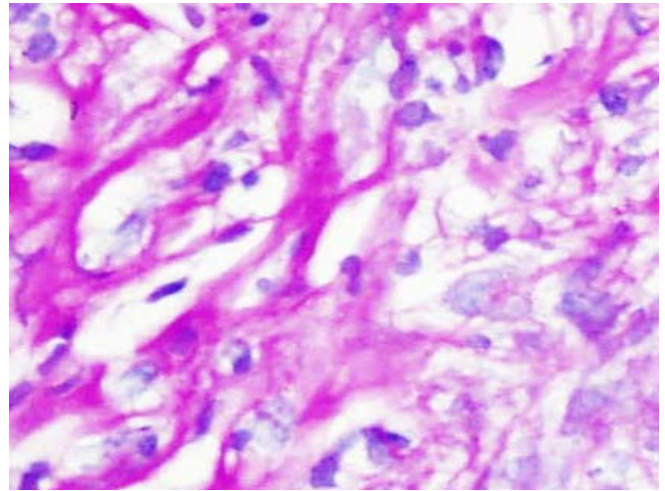
She was sent to ENT Surgeon for further management She was operated at ENT department Bahawal Victoria Hospital, Bahawalpur and the mass was sent for histopathological examination to Agha Khan Lab, Karachi. It revealed fibrous tissue fragments lined by respiratory epithelium, exhibiting chronic granulomatous inflammation, comprising of multinucleated giant cells.

No evidence of necrosis was present. On special stain (Periodic Acid Schiff) thin walled septate fungal hyphae were seen in the giant cells, and these fungi were resistant to Diastase. In some areas the fungal hyphae were also seen invading the surrounding soft tissue. Zheil Nelson's stain was negative for acid fast bacilli. Cultures were recommended for definite fungal species identification.

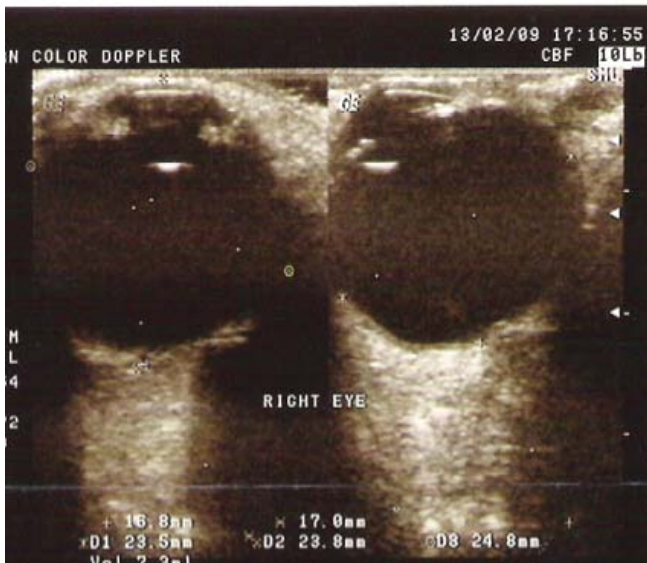
She was put on antifungal treatment and proptosis has subsided.



literature. Fungal infection has emerged as a more vital health problem in modern times because of increased travel into and out of endemic areas, immune deficient states such as AIDS, immunosuppression for transplantation and from chemotherapy. The more prevalent use of long-term, broad-spectrum antibiotic therapy and poorly-controlled diabetes also remains a problem. However, improved means of clinical detection and laboratory diagnosis have more clearly identified affected individuals.



Microscopic view



B. Scan

Fungi are found mainly in air, dust, soil, plants, and decaying organic matter. They adhere to dust particles and are inhaled and deposited on the nasal and paranasal sinus mucosa and may spread to orbit causing proptosis. The warm, moist environment of the upper respiratory tract is an ideal environment for the proliferation of these organisms. However, they are rarely pathogenic because host resistance is high except under favorable growth conditions in highly susceptible individuals.

DISCUSSION

Although sinusitis affects up to 20% of individuals during the course of their lives, fungal infections of the sinuses are relatively uncommon. The first reported case was by Plaignaud in 1791. A detailed clinical description of *Aspergillus fumigatus* of the nasal cavity was first described in 1885 by Schubert. The first description in the U.S. was by Mackenzie in 1893, but it wasn't until 1961 that Sevetsky and Waltner presented the first actual series of cases in the

Fungi are closely related to bacteria. They possess a unique property called dimorphism, meaning that they may exist both as a spore form and as a branching, mycelial form, depending on environmental conditions. There is a wide range of morphologic types. The presence or absence of segmentations or septa of the hyphae often distinguish the species. The hyphae branch like a tree from a central stem or from a common node such as *Rhizopus*. The terminal buds may exhibit a spherical sporangia or are arrayed in clusters like the conidiophores of *Aspergillus*. These fungi grow best

on Sabouraud's agar. They are, however, difficult to grow and it may take weeks to produce identifiable colonies. The most commonly seen mycotic organisms in the Western world are *Aspergillus*, *Mucor*, *Rhizopus*, and *Alternaria*.

Diagnosis is best made by tissue biopsy, staining of the specimen followed by microscopic examination and culture. Occasionally a smear can be stained and examined, thereby precluding the need for biopsy. Even KOH preparations can sometimes produce identification of the organism. Fungal specific stains such as periodic acid-Schiff (PAS), or Grocott's methenamine silver (GMS) are most often necessary for definitive diagnosis.

CONCLUSION

Fungal granuloma of ethmoidal sinus is relatively uncommon cause of proptosis. If ophthalmologist comes across such a case then, it can be best managed in a multidisciplinary way.

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