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Orbital Aspergillosis: A Rare Case of Proptosis

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Abstract

Orbital mycosis is a serious infection that may first present to the ophthalmologist in the form of proptosis with pain in the eye. Radiological diagnosis of such a lesion may mimic neoplastic space occupying pathology of the orbit. As such a definite diagnosis of such lesion is utmost importance for proper treatment in these cases. We report here a rare case of orbital mycosis with CNS extension in an immunocompetent individual which was radiologically suspected to be of lymphomatous origin.

Keywords: Orbital, fungal infections, aspergillosis, lymphoma.

Introduction

Fungal infections of the orbit is now increasingly detected due to the increased awareness of clinicians, the growing number of immunocompetent host, the advances in imaging and the availability of histopathological evaluations of tissue specimen. Being a rare clinical entity orbital aspergillosis is often misdiagnosed. Invasive orbital aspergillosis may lead to disabling conditions including blindness and extension to CNS causing severe disability and death. However, complications and mortality may be avoided with timely diagnosis and treatment.

We report here a rare case of orbital mycosis, morphologically identical with Aspergillosis, observed in an immune competent patient admitted in our institute with a radiological finding suggestive of orbital lymphoma with extension to CNS.

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Case report

A 39 Yrs. male was admitted with history of progressive protrusion of the left eye since one year with severe pain since last 7 days before admission in the hospital.

Clinical examination: left eye was protruded. It was firm to hard in consistency. Both eye lids were swollen. External surface of the protruded left eye shows intact cornea with congestion of conjuctival vessels. Vision of the left eye was absent. Anterior chamber, iris, posterior chamber appeared normal. There was evidence of Central retinal vein thrombosis and macular degeneration in the left eye. There were no associated nasal complaints like obstruction, epistaxis and nasal discharge. Right eye was normal with normal vision.

Systemic examination findings were non-contributory.

Routine tests for blood including blood biochemical tests were within normal limits.

Tests for HIV, HCB and HBV were negative.

CEMRI of left orbit reveals an ill-defined heterogeneously enhancing solid lesion involving pre-septal, intraconal, conal and extraconal compartments of left orbit with resultant proptosis of left eye with extension into middle cranial fossa to involve the left temporal lobe. There is involvement of lacrimal glands. Suggest possibility of Lymphomatous etiology.

The case was clinically suspected as orbital lymphoma. A biopsy specimen was sent to the laboratory for evaluation.

Small bits of grayish brown tissue, altogether measuring 1 cm X 0.5 Cm were received in the laboratory.

Histopathological examination of tissue sections show a soft tissue lesion with foreign body giant cells, scattered epithelioid cells, foamy xanthomatous cells with areas of necrosis and mixed inflammatory infiltrate consisting of polymorphs, plasma cells and Eosinophils. No definite granuloma seen. Large number of septate dichotomously branched (at an acute angle) filamentous hyphae of uniform width is noted in the sections. There was no evidence of lymphoma in any of tissue sections.

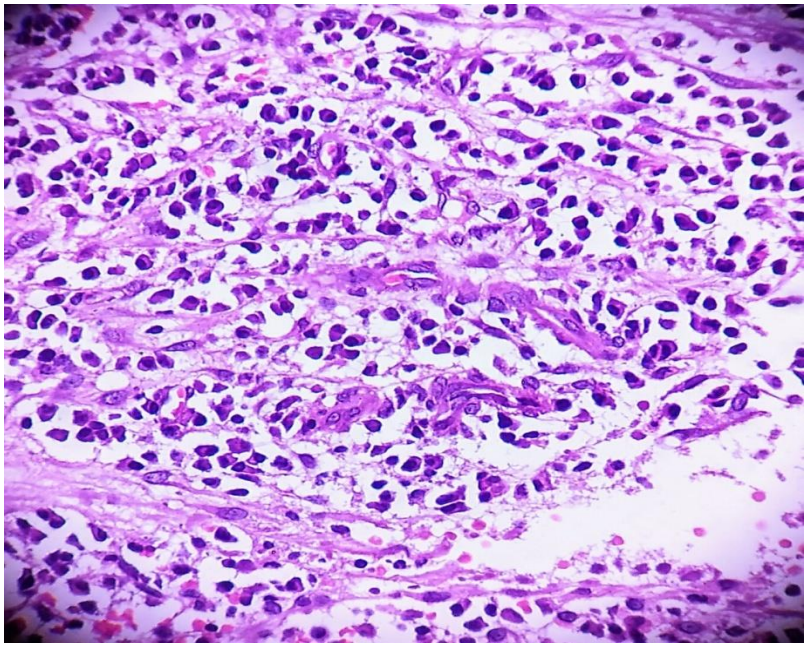

Fig.1: Photomicrograph showing inflammatory reaction with preponderance of plasma cells (H&E X 400)

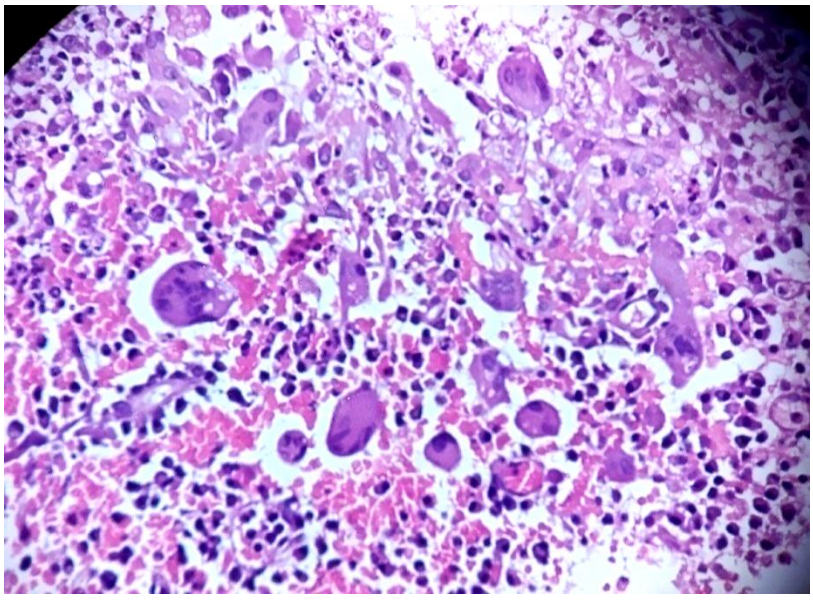

Fig. 2: Photomicrograph showing extensive foreign body type of reaction, away from the fungal bodies (H&E X 400)

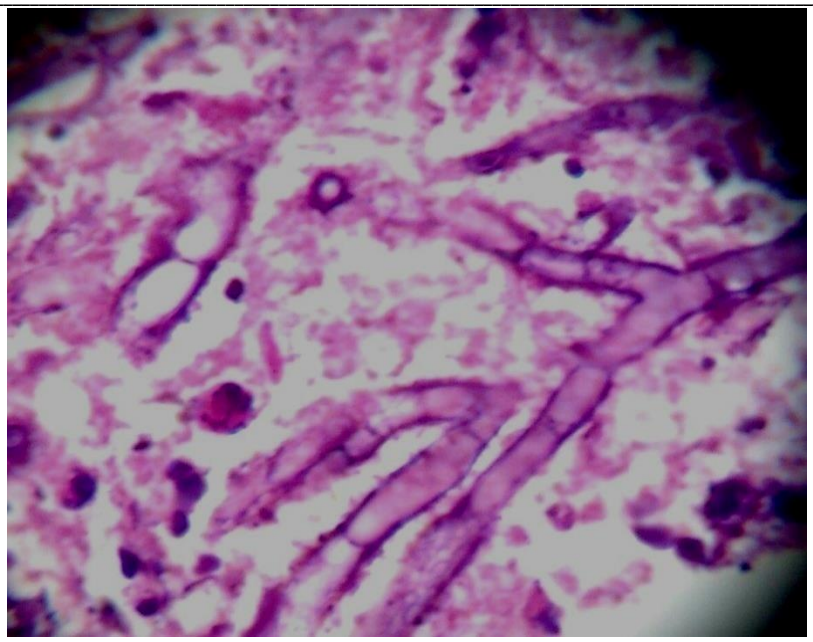

Fig. 3 : Photomicrograph of fungus showing septate, dichotomously branched (at acute angle) filamentous hyphae morphologically identical with *Aspergillus* sp. (H&E X oil).

Discussion

Orbital fungal infections are important causes of morbidity, blindness and even mortality especially in tropical countries. Out of all fungal infections of the orbit *Aspergillosis* can affect both immune compromised and healthy immunocompetent hosts [1,3]. Usually arising from the paranasal sinuses, it may present in manifold ways within the orbit [2] CNS extension by aspergillosis are relatively uncommon and until recently only a few such mycotic infections came to neurosurgical attention. Predisposing factors include AIDS, malignancy, older age and immunosuppressive medications. However, immunocompetent hosts also have been known to suffer from orbital fungal infections [2, 4].

Invasive *Aspergillus* infections have a marked predilection for the orbit and surrounding tissues, including the paranasal sinuses [5].

Early diagnosis and rapid institution of appropriate therapy are crucial elements in the management of invasive aspergillosis. Obtaining selective and adequate diagnostic material for pathological and microbiological examination is critical.

Common presenting complaint in the present study was pain and absence of vision of the rt. eye with protrusion of the eye ball. Proptosis may be the initial sign of fungal sinusitis even in immunocompetent individuals [6,7].

Radiographic findings suggestive of fungal infections can be appreciated in numerous studies.

Although neoplasms are the common considerations in the presence of enhancing lesions with peri lesional edema and mass effect on neuroimaging, non-neoplastic conditions in particular, infectious lesions can have similar imaging characteristics [8].

In our study, CT scans also showed heterogeneously enhancing mass lesion with peri lesional edema and the diagnosis offered was a diffuse lesion with possibility of Lymphomatous aetiology.

Conclusion

Clinical and radiological features of orbital masses with proptosis sometimes may pose problems in differentiating aspergillosis from neoplastic lesions including lymphoma. At times CT findings may not be conclusive, therefore, whenever HPE reveals chronic non-specific inflammatory tissue reactions with granulomatous reaction, histopathologist should be aware of presence of a fungal element as an etiologic factor.

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