

## **Orbital Fungal Infection: A Clinical Masquerade**

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Fungal orbital infection accounts for a minor proportion of the orbital infections. As the disease carries considerable morbidity and mortality, early diagnosis and treatment is important for salvaging eye and life. Fungal infection of the orbit is reported to masquerade various other inflammatory and neoplastic diseases which accounts for a delay in the diagnosis.

The purpose of this study is to describe the clinical presentations and diagnostic features of fungal infections of orbit.

**Materials and Methods:** Medical records of all cases of biopsy proven fungal infection of the orbit presented to Tanta University Eye Hospital between Jan 2000 and June 2015 were retrospectively reviewed. Data were collected regarding the age at presentation, predisposing conditions and systemic illness, associated nasal symptoms and clinical diagnosis. Orbital imaging was done in all patients. Data collected about the imaging findings included location of lesion, associated bone changes, muscle thickening and contiguous extension to the surrounding structures. Diagnosis was achieved in all cases by histopathological and/or microbiological examination of orbital or sinus biopsy material

**Results:** Out of the 35 patients diagnosed as fungal orbital infection, 25 were males and 10 females. Average age of the patients was 45 years with a range of 9 to 78 years. Thirty-two were unilateral and 3 had bilateral affection. Average duration of symptoms before presentation was 7 weeks with a range of 1 to 20 weeks. In 5 patients, the presentation was acute resembling acute bacterial orbital cellulitis. In 25 cases was insidious with a sudden onset of painless ptosis, ophthalmoplegia and almost complete loss of vision. Ophthalmoplegia was the most common presenting symptom seen in 28 patients 80%, lost vision in 20 patients (58%). Proptosis was less common seen in 14 cases. 7 patients had associated nasal symptoms (20%). Predisposing conditions included uncontrolled diabetes in 24 patients (68%), periorbital trauma in 4 cases (11%) and chemotherapy in 3 patients (9%).

The clinical diagnosis of fungal infection was suspected based on the initial clinical features in 21 cases (60%). In other 40% cases, the clinical differential diagnosis included Tolosa Hunt syndrome, cavernous sinus thrombosis, lymphoma, IOIS. On computerized tomographic imaging, 19 patients had evidence of thickening of the extraocular muscles involving one or more muscles. Bone destruction in 14 cases. The diagnosis was achieved in all cases after histopathological and/or microbiological examination of the biopsy material. Aspergillus was the most common fungal isolate (29% cases). Disease was orbital in 7 cases (20%), sinorbital in 22 cases (63%), sino-orbito-cranial in 4 cases (11%) and orbitocranial in 2 cases (6%).

**Discussion:** Fungal infection contributes to a small minority of the orbital infections. Often the disease causes extensive damage to the orbital and periocular structures and can lead to blindness and even death in certain cases. The clinical manifestations also vary depending on the virulence of the organism and the immune status of the patient. Fungal infection may mimic various other infectious, inflammatory and neoplastic disease patterns. As fungal orbital infections still carry a poor prognosis it is important to recognize the disease early and institute appropriate treatment to minimize the morbidity and mortality. Keeping high index of suspicion is mandatory.