ORIGINAL RESEARCH PAPER

Ophthalomology

A CASE OF ORBITAL APEX SYNDROME SECONDARY TO PULMONARY ASPERGILLOMA

KEY WORDS: - Orbital apex syndrome, OAS, invasive fungal sinusitis, aspergilloma

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ABSTRACT

Orbital apex syndrome (OAS) is characterized by vision loss from optic neuropathy and ophthalmoplegia due to the involvement of ocular motor nerves in the anatomical region of the orbital apex. Patients may exhibit symptoms that are caused by the involvement of the cavernous sinus, the superior orbital fissure, or the orbital apex. The primary focus of the ophthalmologist should be to locate the lesion and then identify its aetiology . Orbital apex syndrome (OAS) is a not so uncommon presentation in invasive fungal sinusitis. Inadequate diagnosis and treatment can lead to irreversible vision loss and even death–. We present a case of a 44-year-old male who presented to our OPD with signs and symptoms pertaining to OAS and a had a history of pulmonary aspergilloma.

INTRODUCTION

An orbital apex syndrome (OAS) has been described previously as a syndrome involving damage to the oculomotor nerve (III), trochlear nerve (IV), abducens nerve (VI), and ophthalmic branch of the trigeminal nerve (V) in association with optic nerve dysfunction. The cavernous sinus syndrome (CSS) may resemble an OAS with additional involvement of the oculosympathetic fibres and the maxillary branch of the trigeminal nerve. Cavernous sinus lesions are also more commonly bilateral[3].

The cavernous sinus, orbital apex, and superior orbital fissure are all related, and while these words describe the exact anatomical sites of a disease process, the causes of these disorders are similar. Patients with characteristics of a superior orbital fissure syndrome (SOFS) may occasionally go on to develop cavernous sinus and orbital apex pathology[3].

CASE REPORT

A 44-year-old male patient presented to our OPD with complaints of inability to open the left eye for the past 20 days. He also felt like his eyeball is swollen for past few weeks. He had no history of trauma. He is a known case of diabetes mellitus. It was found that he was diagnosed with pulmonary aspergilloma in his left lung, upper lobe along with left sided pleural effusion. The mass was surgically excised 3 months back in an outside hospital following which the diagnosis was confirmed pathologically.

It was followed by gradual onset pain and swelling on his left side of face along with diminution of vision. There was drooping of left eyelid also. He got examined at a tertiary care eye hospital where his CT Orbit and PNS was advised. It was found to have severe mucosal thickening in bilateral maxillary, ethmoid, left frontal and sphenoid sinuses. There was also infective edema in inferomedial extraconal fat which could have been due to spread of infection from the ethmoid sinus/ maxillary sinus.

Upon review in our hospital, he had a visual acuity of 6/24 in the right eye and counting fingers close to face in the left eye with no improvement. There was complete ptosis in the left eye. He had full restriction of movements in the left eye and complete movements in right eye. He also had proptosis and diffuse chemosis in his left eye (figure 1).

He had mid-dilated pupil in left eye with RAPD (Grade 4). Upon dilated fundus examination he was found to have optic atrophy in left eye along with cherry red spot in macula, suggestive of CRAO. The other eye optic disc was normal but there were multiple small hemorrhages and Roth spots (Figure 2).

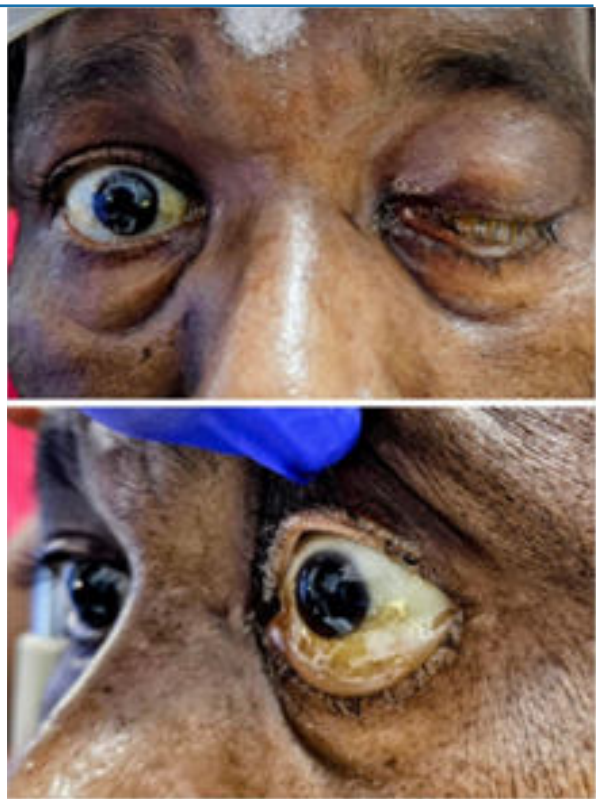

Figure 1-General Examination

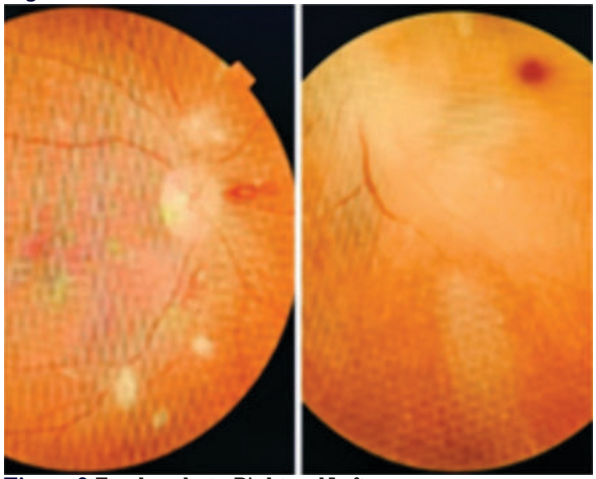

Figure 2-Fundus photo: Right and Left eye

The patient has been diagnosed with Orbital Apex Syndrome due to involvement of cranial nerves (CN) III, IV, VI and the ophthalmic division of CN V with optic neuropathy which would have resulted from the fungal infection in the maxillary or ethmoidal sinuses (invasive aspergillosis). He was referred to a higher center for neuro-ophthalmology opinion as well as ENT consultation.

DISCUSSION

The clinical characteristics of orbital apex syndrome are optic neuropathy and ophthalmoplegia. This disease is classified by the location of the lesion into three groups: superior orbital fissure syndrome, orbital apex syndrome, and cavernous sinus syndrome. Superior orbital fissure syndrome affects mainly the cranial nerves (CN) III, IV, VI and the ophthalmic division of CN V without optic neuropathy. But true orbital apex syndrome involves the same cranial nerves with optic neuropathy. Cavernous sinus syndrome, which does not involve the optic nerve, affects the maxillary division of CN V and the sympathetic nerve[4].

There are a large number of causes for OAS in which invasive fungal sinusitis (IFS) is one of the most important owing to the mortality associated with it[1]. OAS secondary to IFS is often a diagnostic conundrum as presenting symptoms and examination findings are largely nonspecific[2]. Delays in diagnosis and treatment can often cause significant morbidity and mortality, with reported mortality rates between 70% and 90%[5,6,7].

CONCLUSION

OAS is a very important diagnosis to be thought of in cases presenting with optic neuropathy and ophthalmoplegia. It is very important to find and treat the underlying cause for OAS utilizing early biopsy and fungal histology. Early empiric antifungal treatment and debridement can potentially reduce morbidity and mortality as well as aid in visual recovery.

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