

Case Report on Orbital Cellulitis

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Abstract

This article advocates the need for early interventions and the use of intravenous antibiotics in cases of orbital cellulitis. We report a case of a 25 year old with orbital cellulitis and a discharging sinus, which had rapidly developed over a period of 6 days. History revealed the presence of a styne over the nasal side of the right upper lid which rapidly developed into swelling of the eye. The patient was admitted for 5 days and intravenous antibiotics were given along with topical medical medications and response was noted.

Keywords: Orbital Cellulitis, Sinus, Antibiotics, Styne.

Key Messages: In cases of orbital cellulitis a detailed history is very important to rule out the causes and ocular examination is must to note progress of management. Orbital cellulitis is a life threatening condition and this requires a prompt management.

INTRODUCTION

Orbital cellulitis is an Infection and inflammation of the soft tissues of the eye socket that is posterior to the orbital septum.¹ It most commonly occurs due to acute spread from the adjacent paranasal sinuses or other closely related structures such as the face, eyelids, or the lacrimal drainage system via the bloodstream or it may occur due to exogenous causes like trauma, foreign body or it can be after surgery.² Orbital cellulitis is an ocular

emergency that needs a thorough examination and management.

CASE REPORT

A 25 year old male presented to our hospital ER, complaining of right eye Pain, Redness, and Swelling of the eyelid for 6 days. It was gradual in onset, and progress rapidly within these 6 days with a significant decrease in vision. The patient had a history of styne over the nasal side of the right upper lid 6 days before onset eye swelling which he had rubbed with hand. After 2-3 days of rubbing patient developed swelling of the eye for which patient went to a district hospital from where he was referred to us and presented to us. There was no history of any sinus infection, upper respiratory infection, dental infection, or any other chronic systemic illness.

There was no history of covid-19 infection.

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A thorough ocular examination of patient was done and clinical findings were as under:

On examination facial asymmetry was present. There was swelling of right upper and lower eyelids with tenderness over swelling.

Ocular movements in right eye was restricted in all 9 gazes with grading of -4.

Orbital tone of right eye was raised.

Axial proptosis of right eye of approximately 5mm was present.

BCVA of right eye using Snellen's chart was 6/24 and left eye was 6/6

Pupillary reaction: Direct and consensual was present in both eyes.

SLIT LAMP EXAMINATION

Right eye

Lids: Swelling of upper and lower eyelid. Eyelashes matted with discharge. Pus discharging sinus on temporal side.

Conjunctiva: chemosis was present.

Cornea, iris and pupil were within normal limit.

LEFT EYE

Within normal limits.

Fundus examination of both eye done with indirect ophthalmoscope using 2.2 D lens was within normal limits.

Investigations

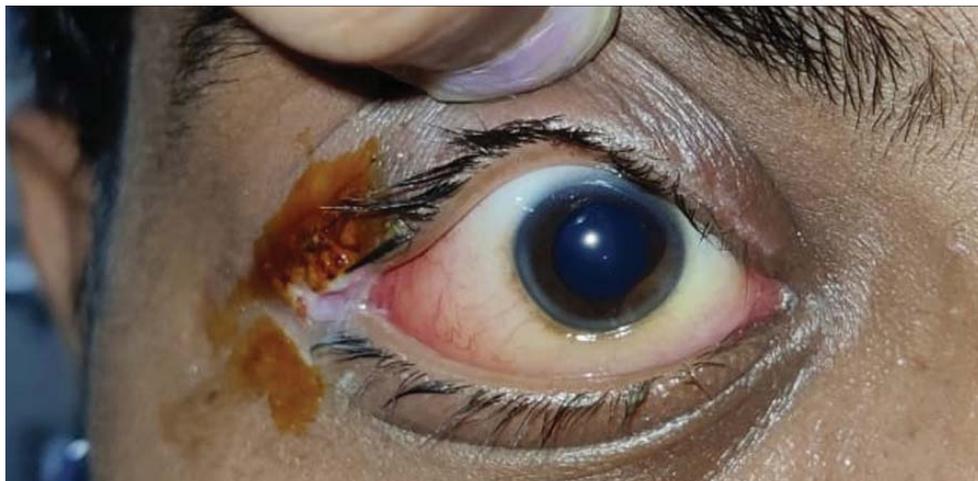
Covid-19 RTPCR negative.

Complete blood count showed increased neutrophils. Absolute neutrophils were increased.

Culture: mixed bacterial growth.

Computed tomography of head and orbit with and without contrast s/o soft tissue thickening along the extra-conal compartment of the orbit along the supero-lateral aspect. Posteriorly the lesion extending along the lateral orbital wall and just reaching the orbital apex along the superior orbital fissure without significant mass effect over optic nerve.

TREATMENT



Patient was given medical treatment in the form of:

Injection Piperacillin + Tazobactam 4.5gm 12 hourly for 5 days

Eye drop moxifloxacin 6 hourly

Eye drop homatropine HS

Eye ointment carboxymethyl cellulose 12hourly

Eye ointment betadine 12 hourly

Tablet diclofenac + serrati peptidase 12 hourly

Tablet pantoprazole once a day before breakfast for 5 days

Tablet betamethasone 3mg for 3 days (measured according to weight)

Patient was examined in daily rounds in morning and evening

After 3 days of systemic antibiotics and topical medications:

General condition of the patient improved.

BCVA: 6/9 on Snellen chart.

The pain was relieved.

The lid oedema and the chemosis were reduced.

The ocular movements had improved.

Patient was discharged after 5 days. Oral medications continued for 5 days and patient was on topical medication for one month.

Patient visited after 1 week

Ocular movements were full in all gazes

BCVA(RE) was 6/9 on Snellen chart

Topical steroids were tapered and discontinued after 15 days.

DISCUSSION

Orbital cellulitis is a life threatening condition cavernous sinus thrombosis and this calls for prompt and specific interventions in cases of orbital cellulitis.¹ These infections may spread to blood stream or through the affected orbital wall. These veins drain into pterygoid plexus or cavernous sinus. The characteristic feature of these veins is they are valveless. Infection may spread to cavernous sinus and can lead to cavernous sinus thrombosis, meningitis and brain abscess and these may eventually lead to demise of the patient. Bilateral orbital cellulitis may occur due to bilateral involvement of cavernous sinus.³ The diagnosis

of orbital cellulitis is mainly clinical aided with radiological findings particularly CT scans and MRI. Mainly orbital cellulitis presents clinically with proptosis, restricted ocular involvements, pain and purulent discharge, decreased vision and chemosis. Patient may present with fever, malaise and fatigue.⁴ In case of intra cranial spread patient may present with altered consciousness. The most common organisms involved are staphylococcus and streptococcus. Bacteroides, Pepto streptococcus, Peptococcus are common in adult infections and older children. Fungal infections are common in immunocompromised patients.⁵

CONCLUSION

Orbital cellulitis with a history of sty is one of the common etiology. This requires a proper history of any kind of small or large swelling on eyelids. It can cause rapid clinical deterioration and intracranial extension. Orbital cellulitis is an ocular emergency and needs prompt action. In our cases, a combination of piperacillin and tazobactam antibiotics showed a good response to orbital cellulitis and a reversal of symptoms. Apart from proper treatment, serial clinical ophthalmic examinations after initiation of treatment are very important to note the progress of the treatment and resolution of symptoms. Orbital cellulitis with discharging sinuses requires a proper systemic and topical management.

Conflict of interest-nil

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