Traumatic luxated globe with intraconal foreign body: A case report

Kinjal Desai¹, Niyant Pandya², Stuti Juneja³, Anjali Kavthekar⁴, Pawan Jarwal⁴
¹Third year resident doctor, Department of Ophthalmology, Baroda medical college and SSG hospital, Vadodara
²Professor and head, Department of Ophthalmology, Baroda medical college and SSG hospital, Vadodara
³Assistant Professor, Department of Ophthalmology, Baroda medical college and SSG hospital, Vadodara
⁴Second year resident doctor, Department of Ophthalmology, Baroda medical college and SSG hospital, Vadodara

ABSTRACT

In our scenario ophthalmic injuries with vegetative matter are quite common, though luxation of globe along with intraconal foreign body causing complete optic nerve avulsion is a rare entity encountered by an ophthalmologist. Here we report a case of a 40 years old male who presented with left globe luxation 6 days after the injury by vegetative matter. As there was no other measure possible with nil visual prognosis because of complicated condition, we enucleated the eye ball in order to prevent the spread of infection and to provide symptomatic relief to the patient.

Key words: Trauma, Luxation, Intraconal

History

A 40-year old male patient presented to the eye emergency with history of fall from tree and trauma to left eye (due to branch which had fallen on ground) 6 days back following which he complained of protrusion of eyeball, pain and loss of vision with stable general condition.

Examination

On examination, left globe was displaced anteriorly up to the equator with lacerated wound over upper eyelid and impacted foreign bodies in supero-temporal part of orbit. Visual acuity was reduced to no perception of light and intraocular pressure was moderately raised. The conjunctiva showed profound hyperemia, chemosis and discharge. The cornea showed signs of exposure keratitis, edema along with multiple small superficial wooden particles. The pupil was mid-dilated, non-reacting with shallow anterior chamber and streak hypopyon. Ocular motility was totally restricted in all gazes. Central fundus could not be visualized due to corneal edema. (Fig 1). The other eye was clinically normal.

Investigations

CT SCAN head and orbit showed three 3x0.5 cm radiodense structures in superotemporal intraconal compartment. (Fig 3)

Management

Corresponding Author:
Kinjal Desai,
Third year resident doctor, Dept of Ophthalmology, Baroda medical college and SSG hospital, Vadodara.
Email: kinjudesai20@gmail.com

6 days had passed already and patient was not given any ocular treatment, so we started primary treatment in form of topical and systemic antibiotic and antifungal medication.

Figure 1: Condition of patient when he presented to us 6 days after injury

Figure 2: Three wooden foreign bodies of size 3x0.5 cms
Figure 3: Arrow 1 shows anteroinferior displacement of left globe. Arrow 2 and 3 shows intraconal 3 radiosense structures s/o foreign bodies

Due to impossibility of retraction of eyeball back into the orbit, we did lateral canthotomy, after which also it was not possible to do so. So we suspected retrobulbar remaining fragments of foreign body and fibrosis and retraction of the orbital cavity and tissue. On evaluating the visual acuity which was no perception of light and total avulsion of optic nerve, loss of insertions of all extraocular muscles, the possibility of spread of infection, chances of occurrence of sympathetic ophthalmitis and impossibility of reduction of globe in orbit we planned for enucleation. Enucleation was performed with 2mm optic nerve stump with possible upper eyelid repair. Post operatively patient was started topical moxifloxacin and fluconazole eye drops, broad spectrum intravenous antibiotics, oral anti fungal and serratiopeptidase along with NSAIDS and antacids. On 10th day, pain, lid edema and conjunctival chemosis was considerably reduced and patient was discharged.

DISCUSSION
When the equator of eyeball protrudes anterior to the eyelid aperture it is called as luxation of eyeball. It can occur either due to squeezing of posterior part of orbit and anteroposterior compression or following sudden severe torsion on globe. It can be associated with avulsion of optic nerve with (complete) or without (incomplete) involvement of extra ocular muscles. Trauma appears to be the commonest cause of it. It can be spontaneous, voluntary or traumatic.

Many conditions can cause globe luxation like vomiting in pregnancy, floppy eyelid syndrome, shallow orbits (Crouzon syndrome), hyperthyroidism, self enucleation in psychiatric patients (oedepism).

Trauma due to penetrating injury if associated with impacted intra orbital foreign body can cause 1. mechanical effect in form of proptosis (eccentric in case of extraconal and axial in case of intaconal), restriction of extraocular movement due to entrapment of muscles (involvement in decreasing order - medial, inferior, superior, lateral rectus, the obliques) and other signs according to the involvement of ocular nerves and vessels 2. introduction of infection due to foreign body which is more common in case of vegetative matter which can lead to panophthalmitis and can spread to sinus and meninges which can lead to neurological complications, field defects in other eye and septicemic shock. 3. sympathetic ophthalmitis in fellow eye in rare cases. Avulsion of optic nerve may be associated with damage to ophthalmic artery leading to haemorrhage. Optic nerve injury at its

Figure 4: Patient at 4th week post operatively

Patient was called for follow up after 2 weeks. At that time, patient was symptomatically better with decreased left eye lid edema and chemosis. Other eye was absolutely normal. Patient was continued on same topical drops and called for follow up again after 2 weeks. (Fig 4)
insertion in globe can be because of vulnerability of nerve fibres in optic disc, fragility of sclera and lamina cribrosa and the small diameter of nerve when it enters into the globe.

Primary enucleation in ocular trauma is generally avoided and it is only done when a functional and anatomical restoration of the globe is not possible. Prompt restoration of globe as compared to primary enucleation has few advantages: 1) patient does not have to sacrifice an organ 2) ocular prosthesis can be fitted easily with better motility on physical eye.

It has been suggested that reoperation on a lost muscle should be done within 7-10 days because after that the muscles undergo fibrosis and contracture and its antagonist muscle may supervene. Empty socket after enucleation can be fitted with ocular implant or prosthesis.

CONCLUSION

We observed that in our case enucleation was the only treatment. As there were signs of infection we did not introduce implant intraoperatively. Due to late presentation of the patient the orbital tissue was significantly fibrosed which later resulted into contracted socket. We would like to consider this patient in near future for reconstructive surgery when patient is willing.

REFERENCES:


