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Case Report

Simple laceration wound of the eyelids? Always remember to look under the lids!

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Introduction

Lacerated wounds of the eyelids are common features of ocular trauma and often occur in isolation without any associated intraocular injuries. Their management too is quite straightforward with simple primary lid repair. However sometimes these injuries may obscure a much more severe accompanying intraocular injury, which if not detected in time may lead to a total blindness. The aim of this article is to highlight the importance of a complete ophthalmological evaluation in each and every case of even a supposedly mild ocular injury.

Case report

A 40-year-old male patient was transferred to this hospital from a peripheral section hospital with a history of having sustained multiple superficial abrasions and laceration of the right upper eyelid, consequent to a road traffic accident. The eyelid laceration had already been repaired as a first aid measure. The patient was then transferred to this hospital and reached about 4 h after the accident.

Ocular examination on presentation revealed a well sutured right upper eyelid laceration wound with no oozing or discharge [Fig. 1a & b]. Slit lamp examination revealed an edematous cornea with multiple superficial abrasions and an anterior chamber filled with clotted blood. The details of the iris, lens and fundus could not be established definitely, but most significantly a large scleral tear was seen just temporal to the cornea [Fig. 2]. The vision was reduced to just perception of light with an inaccurate projection of rays.

An eye shield was applied and patient was taken for an urgent CT scan orbits to rule out any retained intraocular foreign body (IOFB) as well as evaluate the posterior segment. The CT scan revealed a total global dehiscence, without any retained IOFB.

Immediately the patient was taken up for emergency exploration and repair under general anesthesia. Examination under anesthesia revealed a large full thickness scleral wound extending from well above the cornea up to the lateral limbus and then running horizontally upto and beyond the lateral canthus. There was vitreous incarceration in the wound along

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Fig. 1 – (a & b) A well sutured right upper eyelid laceration wound.

with prolapse of the uveal contents [Fig. 3], putting us in dilemma as to where to even start repairing from.

We started suturing the wound in layers from the 12 O'Clock position and proceeding inferiorly up to the limbus. The active bleeding from the injured sclera as well as the severe vitreous loss made suturing that much more difficult. On reaching upto the limbus, anterior chamber wash was done to aspirate out the hyphaema and the lenticular remnants. Subsequently anterior vitrectomy was done and the anterior chamber was reformed with air. It was only after this that the repair of the horizontal aspect of the wound was carried out right up to the lateral canthus [Fig. 4]. The surgery lasted for more than 4 h and involved a total of 32 stitches. Finally an injection of steroid and antibiotic was injected sub-conjunctivally.

Postoperatively the patient was initially managed with injectable steroids (methylprednisolone 1 g OD IV) and broad spectrum antibiotics, which was followed by oral steroids

from the 3rd day onwards (tablet prednisolone 60 mg OD) on a tapering schedule. Topical steroid antibiotic eye drops initially in a hourly frequency, along with topical anti-glaucoma (timolol 0.5% BD) and topical NSAID (flurbiprofen QID) were also given.

Postoperative recovery was uneventful and 3 weeks later he was transferred to a higher center for managing the vitreoretinal injuries. There the patient underwent a second surgery involving vitrectomy, endolaser and silicone oil implantation. Presently the patient is stable and awaiting the silicone oil removal followed by a scleral fixated IOL.

Discussion

Worldwide, about 1.6 million people are blind and a further 19 million suffer from monocular blindness or low vision all due to eye injuries.¹ Most globe rupture injuries are found in men (78.6%) and typically at a younger age (median age, 36 years) than in women (median age, 73 years).² Road traffic accidents

Fig. 2 – An edematous cornea with multiple abrasions and the anterior chamber filled with clotted blood.

Fig. 3 – A large full thickness scleral wound extending from above the cornea up to the lateral limbus and then running horizontally upto the lateral canthus.

Fig. 4 – Immediate post surgical repair.

(RTA's) are the leading cause of ocular injuries in patients with major trauma and so it is vital that all such patients are examined specifically for an ocular injury.³

It's recommended that patients with eyelid lacerations and superficial eye injuries be assessed by an ophthalmologist as part of the early management of their trauma to rule out any underlying, more severe ocular injury.⁴

When confronted with a trauma patient, the initial evaluation should always begin with the assessment and management of the patient's major life threatening injuries. However once stable, a thorough and complete ocular examination should be carried out in a methodical fashion.⁵ The rupture of the eyeball produces numerous signs like loss of eyeball contour, totally soft eyeball, extrusion of jelly like material (vitreous) between eyelids, constant oozing of blood, loss of vision, etc. and these signs and symptoms should be specifically looked for.

An eye shield protects the injured eye from any further damage and is highly recommended in cases of globe rupture until surgical repair can be initiated.⁶

Imaging, in combination with ophthalmologic examination, is a powerful tool in evaluating traumatic globe injury.⁷ CT scanning is the most sensitive, readily available imaging study available to detect associated optic nerve injury, small foreign bodies and in detecting fractures. It also provides useful prognostic information regarding the visual outcome.⁸

Primary surgical repair is preferred and that too under general anesthesia.^{6,9–11} Immediate and watertight wound closure is essential to avoid expulsive choroidal hemorrhage, persisting ocular hypotony or epithelial ingrowth while a delayed wound closure raises the risk of post-traumatic endophthalmitis.¹² An early vitrectomy is known to prevent tractional retinal detachment in cases of retinal injury with vitreal bleeding.¹²

Postoperative prophylactic systemic antibiotics are known to prevent endophthalmitis.⁹

Systemic steroids in high dose are considered the drugs of choice to prevent the development of sight threatening bilateral sympathetic ophthalmitis.¹³

The recommended treatment protocol for ruptured globes is that primary repair should be performed immediately while secondary procedures like endolaser, vitrectomy and silicone oil implantation are carried out at a later date to stabilize the central retina and achieve sight preservation.^{6,12}

Conclusion

Globe rupture is one of the most severe types of all ocular injuries, often leading to blindness. Surgical exploration, enucleation or evisceration is the usual treatment protocols used for these types of injuries.³ Various studies show that the percentage of eyes requiring enucleation following such injuries varies from 12% to 50%.^{11,14} Early recognition of eye injuries in patients with major trauma is important as timely intervention may save vision. In this particular case we feel that the initially treating medical officer actually did a commendable job in getting the patient to an eye center within 4 h of injury and that too after carrying out the initial eyelid injury repair.

In conclusion we feel that many such injuries can be prevented thus avoiding the permanent invalidity caused by reduced visual function or blindness of the injured eye.¹⁰ For this health education, specifically emphasizing on the safety measures play an important role and thus ensuring a lifetime of healthy vision in this mostly young and productive age group.

Conflicts of interest

All authors have none to declare.

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