

Uneventful train journey turns out to be a night (vision) mare

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Abstract: We report two cases of ocular trauma with stone pelting from outside while travelling in train. In first case the insult resulted in Berlins edema, choroidal rupture and vitreous haemorrhage. Second case presented as globe rupture. Both the patients were healthy individuals with normal vision who had sudden painfull loss of vision after trauma. Velocity of train and velocity of the stone had synergistic effect to produce gross drop in vision from severe blunt trauma to the eye.[1]

Keywords: Berlins edema, choroidal rupture, globe rupture, train journey

I. Introduction

A moving train has a huge amount of momentum and kinetic energy. The slightest inadvertent collision between a moving object and person inside train who is moving in a velocity relative to train can result in severe eye injuries.[5]

II. Case report

Case 1-

22yr old female patient came to ophthalmology opd with complaints of painful loss of vision LE following trauma. She was hit by stone which was thrown from outside while travelling in a train. On examination-Right eye was normal with visual acuity of 6/6, N6. Left eye vision was PL+, ocular examination revealed severe lid edema, chemosis, corneal edema, total hyphema. Fundus examination left eye was not possible due to total hyphema. B Scan showed subhyaloid haemorrhage in the macula. Patient was treated with atropine eye ointment, topical steroids, topical and systemic antibiotics, antiglaucoma medications. Subsequent examination, once hyphema settled, revealed iridodialysis from 7`oclock to 11`o clock position. Pupil was "D" shaped and not reacting to light. Fundus examination showed vitreous haemorrhage, choroidal rupture adjacent to the macula with berlins oedema.



Figure 1: Showing iridodialysis from 7`oclock to o`clock position, pupil D shaped.



Figure 2-showing choroidal rupture concentric to macula

Case 2-

25years old male patient admitted in trauma ward with sudden painfull loss of vision right eye. He gave alleged history of being hit by a stone thrown from outside while travelling in train.

On examination- Right eye vision was No PL. Right eye showed periorbital ecchymosis, severe chemosis, full thickness corneoscleral laceration from limbus upto the superior fornix, with vitreous presenting in the wound and blood in anterior chamber. Globe was soft and tender. Fundus examination of left eye was not possible. Vision right eye was doubtful perception of light. Left eye had a normal anterior and posterior segment with a vision of 6/6, N6. X-ray orbit showed no evidence of intraocular foreign body.



Figure 3-globe rupture RE

Patient was treated with IV antibiotics, topical antibiotics, systemic NSAIDS and taken up for surgery for globe rupture repair. During surgery lens and vitreous were found at the wound.

III. Discussion

The ocular trauma classification group, Birmingham Eye Trauma Terminology System (BETTS) has broadly classified ocular injuries into two categories-

Open globe- full thickness defects in the corneoscleral coats of the eye

Closed globe-ocular injury without a full thickness defect of the coats [4]

Three zones were described in both these categories, zone 1-injury confined to the cornea, zone 2-injury confined to the anterior 5mm of the sclera, zone 3-more posterior than 5mm from the limbus. [8]

The mechanism of ocular damage by blunt trauma can be by coup, contrecoup mechanism or ocular compression. Coup refers to local trauma at the site of impact, counter coup refers to injuries at the site opposite to the site of the impact, caused by the shock wave that traverse the eye. Foci of ocular damage is found along the pathway of the shock wave. Example of counter coup injury is commotio retina. In ocular compression when the eye is compressed along its anterior-posterior axis, it expands in its equatorial plane. As the volume of closed space cannot be changed it leads to rupture.

These cases are being presented to highlight the importance of health education about the severe ocular trauma following playful stone pelting on the passengers travelling in the train. These type of injuries can result in visually significant trauma thus converting an otherwise uneventful train journey into a night(vision)mare. Such ocular morbidity could be avoided by creating awareness to the public as well as railway authorities in order to prevent the psychological and economical loss to the victims.[6]

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