International Journal of Preventive, Curative & Community Medicine
Volume 5, Issue 4 - 2019, Pg. No. 16-17
Peer Reviewed & Open Access Journal

Case Study

Traumatic Avulsion of Globe: A Rare Incidence of Ocular Trauma

RS Chuahan[1], Apoorva Goel[2]

[1,2]Regional Institute of Ophthalmology, PGIMS, Rohtak, Haryana, India.
DOI: https://doi.org/10.24321/2454.325X.201924

I N F O

Corresponding Author:
Apoorva Goel, Regional Institute of Ophthalmology, PGIMS, Rohtak, Haryana, India.
E-mail Id:
goelapoorva94@gmail.com
Orcid Id:
https://orcid.org/0000-0002-7492-6469
How to cite this article:
Chuahan RS, Goel A. Traumatic Avulsion of Globe: A Rare Incidence of Ocular Trauma. *Int J Preven Curat Comm Med* 2019; 5(4): 16-17.

Date of Submission: 2020-04-10
Date of Acceptance: 2020-04-17

A B S T R A C T

Ocular trauma secondary to Road Traffic Accidents (RTA) is the most common cause of monocular visual disability and their incidence is on a rise in developing countries like India. RTA leading to globe avulsion though rare can be a challenging situation when encountered. Here we report a case of a 40 years old man who presented after a high impact road traffic accident with globe avulsion and multiple fractures of head and orbit. Keeping in mind the health burden associated with RTA, there is an ardent need for strict traffic rules and public education in developing countries.

Keywords: Road Traffic Accident, Ocular Trauma, Avulsed Globe, Orbital Implant

Introduction

Ocular trauma is a preventable public health problem which constitutes 7% of all bodily injuries and 10-15% of all eye diseases.[1] It is the main cause of uniocular visual disability and non-congenital unilateral blindness.[2,3] Any form of trauma that might not be harmful elsewhere in the body, can be a serious one in eye resulting in blindness causing significant impairment of the patient's social and occupational abilities.[1]

Ocular involvement in road traffic accidents can involve the eyelids, lacrimal canaliculi, orbital wall, conjunctiva, cornea, sclera and the extra-ocular muscles. It can be associated with the prolapsed of uveal tissue, vitreous loss, traumatic cataract, retinal detachment, vitreous hemorrhage, choroidal rupture, globe avulsion or a ruptured globe.[4] Avulsion or luxation of the globe during trauma is prevented by the anatomic location of eyeball within the socket, the resilience of the globe to pressure force and the attachment of globe to extraocular muscles and optic nerve. Injury to the mid face area are usually associated with orbital fractures involving the floor, medial wall or the roof leading to eye ball luxation or avulsion. Occipital injury can also lead to counter coup injury that can avulse the eyeball during RTA. Hence, RTA leading to eye ball avulsion or luxation though rare can be a challenging situation when encountered.[5]

Case Report

A 40 years old unconscious man was referred to the trauma center of PGIMS, Rohtak following a high impact road traffic accident. He was under the influence of alcohol and was driving a motorbike without the use of helmet when he collided with a truck. Ophthalmic examination was done after removing the dressing, in which the right globe was found to be avulsed along with lower lid laceration (Figure 1). Patient was taken up in emergency OT for exploration after taking informed and written consent from the patient's relatives. Since, the globe was completely avulsed and free from any underlying tissue, packing of the empty socket and

suturing of laceration was done. The eyeball specimen was sent for histopathology. Left eye had periorbital ecchymosis, subconjunctival hemorrhage and reacting pupil with normal fundus. CT-scan of head and orbit revealed fracture of lateral wall and floor of right orbit along with temporal bone fracture on the same side. Artificial orbital implant was planned in second sitting. Patient was referred to neurosurgery for further management.

Figure 1.Describing the avulsed globe completely free from underlying tissue lying over the empty socket along with lower lid laceration

Conclusion

Ocular trauma usually results in some visual loss thereby creating cost burden on both the victim and society. Hence, there is a huge need for more active interest in the prevention of eye injuries. Avulsion of globe as reported in the above case is encountered very rarely and is associated with trauma of the face or the orbits. The globe cannot be salvaged in such cases. However, ocular prosthesis has been implanted in such patients with satisfactory cosmetic and psychological outcome. For the Prevention of Ocular Injuries in RTA: education of the public through the use of news media and television, ensuring strict compliance to wearing seat belts and traffic rules and punishment for reckless driving is an essential step.[4]

Funding: No Financial Funding

Ethical Approval: Not Required

Conflict of Interest: None

References

1. Acar U, Tok OY, Acar DE, Burcu A, Ornek F. A new ocular trauma score in pediatric penetrating eye injuries. Eye (lond) 2011; 25(3): 370-374. https://doi.org/10.1038/eye.2010.211.
2. Jandeck C, Kellner U, Bornfeld N, Foerster MH. Open globe injuries in children. *Graefes Arch Clin Exp Ophthalmol* 2000; 238(5): 420-426. https://doi.org/10.1007/s004170050373.
3. May DR, Kuhn FP, Morris RE et al. The epidemiology of serious eye injuries from the United States Eye Injury Registry. *Graefes Arch Clini Exp Ophthalmol* 2000; 238(2): 153-157. https://doi.org/10.1007/PL00007884.
4. Shtewi ME, Shishko MN, Purohit GK. Road traffic accidents and ocular trauma: experience at Tripoli eye hospital, Libya. *Community Eye Health* 1999; 12(29): 11-12.
5. Roka N, Roka YB. Traumatic luxation of the Eye Ball. *Nepal J Ophthalmol* 2018; 10(20): 196-202. https://doi.org/10.3126/nepjoph.v10i2.20031.

ISSN: 2454-325X
DOI: https://doi.org/10.24321/2454.325X.201924