



Ocular Traumatology, an evolving sub-specialty

Rajendra P Maurya

Editor in Chief IJCEO

Assistant Professor & I/c Orbit, Ocular

Oncology and Oculoplasty Unit

Department of Ophthalmology,

Institute of Medical Sciences,

Banaras Hindu University, Varanasi, (UP), INDIA

E-mail: editorijceo@gmail.com, mauryarp_bhu@yahoo.com

Ocular Traumatology is a sub-specialty of ophthalmology associated with acquired ocular morbidities and blindness. Ocular trauma, once described as a neglected disorder, has recently been highlighted as one of the major cause of monocular visual impairment and blindness in all parts of the world. Eye trauma constitute 7% of all physical injuries and 10-15% of all eye diseases.⁽¹⁾ It has been reported that more than 500,000 blinding eye injuries occur annually worldwide. Approximately 1.6 million people are blind due to trauma and 2.3 million bilaterally visually impaired.^(2,3) In Indian context, injury as a cause of blindness constitute 1.5% of total cases.⁽⁴⁾ Reported incidence of ocular trauma in India is on lower side as compared to western countries, because of less reporting of cases from rural India. Major responsible factors seems lack of education, transport and awareness. Eye injury have a significant impact on the individual, their family and society in terms of medical cost, long-term disability, loss of career / productivity and socio-economic status. Unfortunately young males, being the vulnerable population for ocular trauma results in higher economic burden to the country at large. Trauma can result in wide spectrum of tissue damage of globe, optic nerve and ocular adnexa with varying severity ranging from minor to severe vision loss.

Management of ocular trauma is a challenging task particularly in pediatric age group. It requires multi-specialty approach involving team of anterior segment, posterior segment specialist, orbit and oculoplastic surgeons, maxillofacial and neurosurgeons. Although prognosis in severe ocular trauma remains quite guarded. However, due to availability of newer investigation modalities like USG, CT Scan, MRI and OCT, recent advances in microsurgery instruments, suture materials and new vitreoretinal techniques, vision can be salvaged to a great extent. Early intervention is highly desirable to reduce ocular morbidity. BETT-S and Ocular Trauma Classification Group has developed newer classification of mechanical ocular trauma which is uniform in nature and helps in accurate transmission of clinical data, facilitating delivery of optimal eye care and analysis of efficacy of intervention.^(5,6) Ocular Trauma Score (OTS) is a valuable tool for objective calculation of functional prognosis in severe mechanical trauma.^(7,8) Ocular Trauma Society of India proposed an India Eye Registry would provide epidemiological data, standardize and evaluation protocols, propose clinical trials and data collection for treatment outcome.

Western research revealed that young males and population of lower socioeconomic status, poor education, engaged in labour / other occupation, participating in dangerous sports or risk taking behavior are at higher risk of ocular trauma.^(9,10) Pediatric ocular trauma is of serious concern because it is prone to cause amblyopia.⁽¹¹⁾ The American Academy of Pediatrics (AAP) reported that 66% of all injuries occurring in individuals 16 years of age or younger,⁽¹²⁾ 80-90% are preventable. There is great need to formulate preventive strategies, requiring a good epidemiological data base and knowledge of the prevalence, severity and risk factors of ocular trauma. Most of the clinico-epidemiological studies on ocular trauma been carried out in developed countries but the prevailing conditions in developing country are different from those ones in developed country. In India few studies have addressed the problem of trauma in rural settings. In this context the information from urban areas are also important as more of rural population migrate and live in urban or large cities. In order to prevent ocular trauma there is need of improved and effective preventive devices, making effective regulations and strict implementation of law to save the eye. It is also important to create wide awareness through media in people, regarding hazards of ocular trauma and importance of preventive measures.

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;25:370-4.
2. Serrano JC, Chalela P, Arias DJ: Epidemiology of Childhood ocular trauma in a Northeastern Clombian Region. *Arch Ophthalmol* 2003;121:1439-1445.
3. Pizzarello LD. Ocular trauma: time for action. *Ophthalmic Epidemiol* 1998;5:115-116.

4. Murthy et al. Epidemiology of blindness, Chapter 3. In Principle and Practice of community Ophthalmology, New Delhi 2002, NPCB. P.9-12.
5. Pieramici DJ, Sternberg P, Aaberg TM et al. A system for classifying mechanical injuries of the eye (globe). Am J Ophthalmol. 1997;123:820-831.
6. Kuhn F, Morris R, Witherspoon D et al. A standardized classification of ocular trauma. Ophthalmology.1996;103:240-243.
7. Joseph E, Zak R, Smith S, Best WR, Gamelli RL, Dries DJ. Predictors of blinding or serious eye injury in blunt trauma. J Trauma. 1992;33:19-24.
8. Hutton WL, Fuller DG. Factors influencing final visual results in severely injured eyes. Am J Ophthalmol.1984;97:715-722.
9. Koo L, Kapadia MK, Singh RP, Sheridan R, Hatton MP. Gender difference in etiology and outcome of open globe injuries. J Trauma 2005;59 :173-8.
10. Chua D, Wong W, Lamourex H et al. The prevalence and risk factors of ocular trauma: the Singapore Indian eye study. Ophthalmic Epidemiol 2011;18:281-7.
11. Rachwalski PJ, O'Halloran HS, Cooper HM et al. Evaluation and classification of pediatric ocular trauma. Pediatr Emerg Care 1999;15:277-279.
12. Al-Bdour MD, Azab MA. Childhood eye injury in North Jordan. Int Ophthalmol. 1998;22:269-73.