



Epidemiology of Ocular Trauma in Motor Vehicle Accidents in South India

KEYWORDS

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ABSTRACT *One of the major causes of ocular trauma is motor vehicle accidents especially when associated with head injuries. This was an observational study conducted over a period of 3 months involving a study population of 50 patients to study the incidence, pattern and severity of ocular injuries in people who suffered head injuries in motor vehicle accidents. In this study higher incidence of closed globe injuries were noted compared to open globe injuries and orbital injuries were also common accounting for 72%.*

Introduction:

One of the major causes of ocular trauma is motor vehicle accidents especially when associated with head injuries. Reported risk factors are male gender, workplace, road accidents, alcoholism and lower socioeconomic class. It is a significant but preventable cause of blindness worldwide. This study was undertaken to study the incidence, pattern and severity of ocular injuries in people who suffered head injuries in motor vehicle accidents.

Materials and methods:

This study was prospective observational study undertaken in government general hospital , kurnool, Andhra Pradesh, over a period of 3 months in 2015, 50 subjects with head injuries admitted to GGH, Kurnool were enrolled in to the study. Informed consent was obtained from all patients.

RESULTS :

Among the 50 patients , 38 were males(76%) , 12 were females(24%) with an average age of 42 yrs (range 16-80yrs) . In our study more number of males were injured than women and were of lower age group , most of the females who were injured were of older age group (>45 yrs). In this study ocular trauma was classified according to BETTS classification. Open globe injuries were less common than closed globe injuries. Most common injuries noted were closed globe injury, contusion involving 42% of eyes. Most of the patients suffered orbital injuries (72%) eyes were affected , 28 patients had bilateral orbital injuries while 16 patients had unilateral orbital injuries. 2 patients had traumatic injury to 3RD Nerve and presented with nerve palsy. Out of the 50 patients only 4 patients had normal initial plain ct brain scan, while 46 patients had abnormalities in CT scan.

Type of eye injury

	No. of eyes	Percentage(n=100)
Contusion	42	42%
Lamellar laceration	6	6%
Penetrating injury	6	6%
Perforating injury	2	2%

	No. of eyes	Percentage(n=100)
Intraocular foreign body	-	-
Rupture	1	1%
ORBITAL injuries	72	72%
3 rd NERVE (traumatic)	2	2%

DISCUSSION:

The incidence of ocular injuries is more in developing countries than in developed countries. It is 12.6 per 100,000 in Singapore and 15.2 per 100,000 in ^{1,2}. In India the reported incidence of ocular trauma varies from 1 to 5%.³Ocular trauma is an important preventable cause of blindness in young population. In our study the average age of affected population is around 42 yrs. In developed countries ocular trauma also often shows increased incidence in old age ^{4,5}, which could be attributed to poor vision because of age related issues such as cataract, age related macular degeneration etc..

Most of the studies on ocular trauma usually donot discuss the incidence of orbital injuries⁶ . This study also focusses on orbital and nerve injuries apart from ocular trauma as these are also dealt by the ophthalmologist as a team with neurosurgeons and maxillofacial surgeons. In this study orbital injuries outnumbered ocular/globe trauma and accounted for 72 % of eyes involved (n=100). In this study closed globe injuries were more common accounting for 48% of the study population, Open globe injuries accounted for 9% . Previous epidemiological studies have also shown higher incidence of closed globe injuries as compared to open globe injury. From India in a study by-Dhasmana R et al 53.39% are of closed globe and 38.83% of open globe injuries were seen⁷.Karamaneta/ in their retrospective analyses of 383 patients found 67.3% of ocular injuries were closed globe and 32.7% were open globe injuries⁸.

Patients with open globe injuries and nerve injuries were found to have poor visual outcome when compared to patients with closed globe injuries. This current study has its limitations and stress the need for a multi centric study to

study the incidence of ocular and orbital trauma and visual outcome of patients involved in motor vehicle accidents and there by help formulate better and focused preventive strategies to prevent poor visual outcomes.

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