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Clinical Profile and Visual Outcome of Ocular Injuries in a Tertiary Hospital in Northern India

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Abstract
Aim: *To identify the various types of ocular injury presenting in a tertiary hospital in northern India..****Material & Methods:*** *Hospital-based, retrospective study conducted over a period of one year. A total of 100 patients of ocular trauma were included.* ***Results:*** *Ocular injuries were more commonly seen in adult in age group 21-40 years (40 %) patients who were involved in road side accident (42%). They were more common in male patients (64 %). Closed globe injury (79 %) was more common than open globe injury (21 %) . 53 % of the patients had a visual acuity better than 6/60 at presentation; while after completed treatment at two months follow-up, 65 % had best corrected visual acuity better than 6/60.* ***Conclusion****: Blunt trauma following road side accident is most common cause of ocular injury in our population. The visual outcome depends upon the site and size of the injury and the extent of the ocular damage.*
Keywords: *Ocular trauma, closed globe injury, open globe injury*

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I. Introduction

The eyeball is a fairly well protected structure in our body. The eye is protected from direct injury by the lids, eyelashes, and the protecting margins of the orbit. Physiologically, it is protected by the blink reflex, head turning reflex, and lacrimation which follows intrusion of any irritant material. Despite these protective mechanisms, injuries to the eye are commonly found. It can be open globe or closed globe injury. The effects of such injuries are much more severe than in any other part of the body because of the delicate nature of the ocular tissues resulting in permanent blindness.

Ocular trauma is a major cause of worldwide visual impairment and morbidity.[1] In India, there are more than 50 million blind people and this number increases by about 3.8 million per year. Amongst the total number of blind cases 1.2 per cent is contributed by injuries which are preventable.[2] The aim of this study is to find out the types of ocular injuries in regional area , the extent of damage by these injuries and the visual outcome after treatment. Ocular injuries are more common in rural areas as people are illiterate and have poor socio-economic status. Apart from being involved in road side accidents, they are unaware of protective devices like goggles and protective shields. The type of injury is also different as the majority are related to agricultural work and animal handling.

II. Material & Methods

The study was a hospital-based, retrospective, observational study conducted over a one year period at a tertiary hospital in Punjab, India. Written informed consent was taken from all the study patients. 100 patients of ocular trauma were studied. Patients with ocular injuries, reporting to casualty and ophthalmology OPD were included in the study. Patients with thermal injuries, ultrasonic injuries and radiation injuries were not included in the study. A detailed history and ocular examination of each patient were recorded. The patients who required admission were admitted and appropriate treatment was given.Patients requiring vitreo-retinal opinion were referred to higher centre for management. The rest were managed on an out patient department (OPD) basis. Patients were followed up on an OPD basis one week after discharge, thereafter four weeks and eight weeks. During follow up, their visual acuity was recorded. Whenever required, refractive testing was done and glasses were prescribed.

III. Results

The present study shows the highest incidence of ocular injuries in the age group 21-40 years (40 %). Also it is seen that ocular injuries are more common in males compared to females (Table 1).

Table 1: Age and sex wise distribution of patients

Age in years	Males	Females	Total
0-10	11	9	20 (20 %)
11-20	7	3	10 (10 %)
21-40	26	14	40 (40 %)
>40	20	10	30 (30 %)
Total	64 (64%)	36 (36%)	100

More cases had a closed globe (79 %) type of injury than the open globe (21 %) type (Figure 1).

Figure 1: Type of Injury

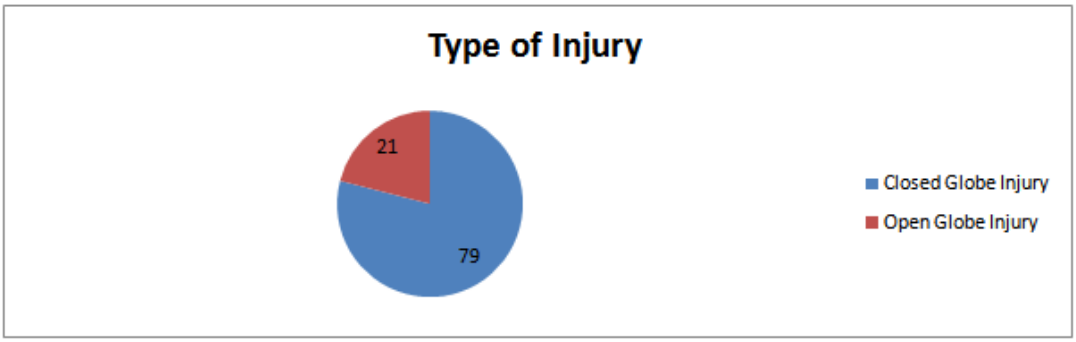
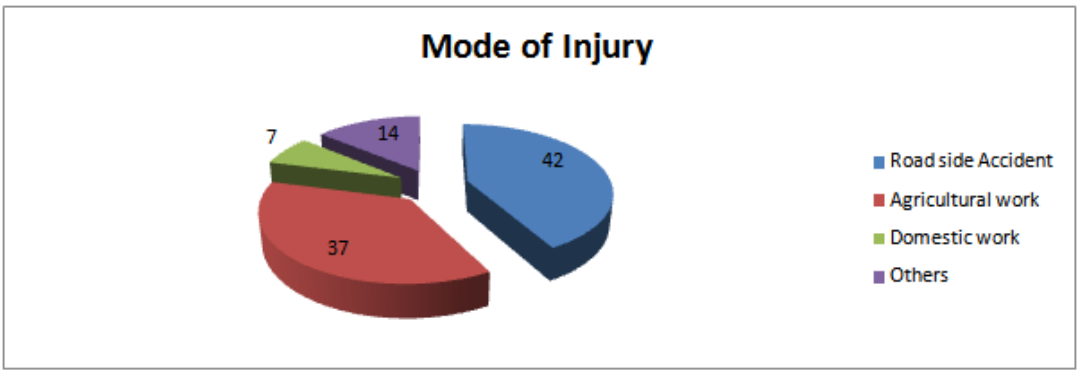


Figure 2 shows that road side accidents (42 %) followed by agricultural work-related ocular injuries (37 %) formed the commonest mode of injury .

Figure 2: Mode of injury



Ocular injuries were more commonly seen in adult in age group 21-40 years (40 %) patients who were involved in road side accident (42%). They were more common in male patients (64 %). Closed globe injury (79 %) was more common than open globe injury (21 %).Table 2 shows the distribution of visual acuity of ocular injury patients at presentation and their best corrected visual acuity (BCVA) at two months follow-up after treatment. 53% had visual acuity better than 6/60 at presentation and 26 % of patients presented with visual acuity from 6/60 to 3/60 At two months followup after treatment, 65 % of patients had visual acuity better than 6/60. 5 patients had just light perception (PL) and four patients had no perception of light (No PL) at presentation.

Table 2: Extent of visual loss at presentation and BCVA at two months follow-up after treatment

Visual Acuity	No. of cases at presentation	No. of cases at 2months follow-up
>6/60	53 (53 %)	65 (65 %)
6/60-3/60	26 (26 %)	21 (21 %)
3/60-1/60	12 (12 %)	7 (7 %)
Perception of Light (PL)	5 (5 %)	3 (3 %)
No PL	4 (4 %)	4 (4 %)

IV. Discussion

In our study, there was increased incidence of ocular injuries in adult patients (40 %) with a male preponderance (64 %). This study was in close relation with Michael et al, Niiranen and Jain et al.[3,4,5] Male preponderance is seen because males are more frequently exposed to outdoor work than females and hence more prone to injuries. There was a higher percentage of closed globe injuries (79 cases) when compared to open globe injuries (21 cases). This finding correlates well with Karaman et al. (2004).[6] The majority of the patients in our study presented with only anterior segment involvement (86 %). None of the patients seen had isolated posterior segment involvement. 14 % patients in our study had both anterior as well as posterior segment involvement.

Patients with open globe injury, presented with a corneal tear with or without uveal tissue prolapse , corneoscleral tear, foreign body in anterior chamber, vitreous hemorrhage, retinal detachment and intraocular foreign body. Patients having closed globe injury presented with periorbital brusing full thickness upper or lower lid tear , conjunctival tear, subconjunctival hemorrhage, corneal lamellar laceration, corneal ulcer with hypopyon , corneal abrasions , hyphaema, traumatic cataract, macular edema and choroidal tear. Patients requiring vitreo-retinal opinion were referred to higher centre for management

V. Conclusion

Ocular trauma is one of the most common causes of monocular blindness, especially in rural areas. Ocular injury can occur at any age, but is more common in adults. Road side accidents and agricultural trauma is an important cause of ocular injury in India as the majority of the Indian population lives in a rural area, farming being a common occupation.

References

[1]. Negrel AD, Thylefors B. The global impact of eye injuries. Ophthalmic Epidemiol. 1998;5(3):143-69.
[2]. Park K. Park's textbook of preventive and social medicine. 17th ed. Jabalpur:Banarsidas Bhanot Publishers, 2002;295-300.
[3]. Ilsar M, Chirambo M, Belkin M. Ocular injuries in Malawi. Br J Ophthalmol. 1982;66:145-148.
[4]. Niiranen M. Perforating eye injuries treated at Helsinki University Eye Hospital 1970-1977. Ann Ophthalmol. 1981;13(8):957-61.
[5]. Jain BS, Soni SR. Ocular injuries: an analytical study in a teaching general hospital. Indian J Ophthalmol. 1987;35(3):112-6.
[6]. Karaman K, Gverović-Antunica A, Rogosić V, LakosKrzelj V, Rozga A, Radocaj-Perko S. Epidemiology of adult eye injuries in Split Dalmatian country. Croat Med J. 2004 Jun;45(3):304-9.

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