



PROFILE OF OCULAR TRAUMA IN A TERTIARY HOSPITAL IN KASHMIR

Dr. Rakshan Reyaz*

Postgraduate, Department of Ophthalmology, Government Medical College, Srinagar *Corresponding Author

Dr. Ifrah Davood

Postgraduate, Department of Ophthalmology, Government Medical College, Srinagar

ABSTRACT

Purpose: To study the common causes and manifestations of ocular trauma in a Tertiary Care Hospital in Kashmir. **Methods:** In this prospective study, patients presenting with ocular trauma visiting Out Patient Department (OPD) and Emergency Department of Government Medical College, Srinagar from January 2021 to January 2022 were evaluated. A complete history and detailed ophthalmological evaluation was done. **Results:** 520 patients were evaluated. The mean age of patients was 26.42 ± 14.7 years. Males were 72.6% and females 27.4%. The majority of the patients (29.53%) were between 21-30 years of age. Students were most commonly affected (38.57%). Road Traffic Accidents (17.14%) and sports-related injuries (10.5%) were the most common causes

KEYWORDS : Ocular trauma, blindness, RTA, Eye injuries

INTRODUCTION:

Ocular Trauma is a significant cause of blindness and ocular morbidity throughout the world. Trauma can result in a wide spectrum of tissue lesions of the globe, optic nerve, and adnexa, ranging from relatively superficial to vision-threatening lesions.^[1] A large number of these injuries require a posterior segment intervention. Most common emergencies are due to open globe injuries and require immediate intervention.

The United States has around 2.5 million cases of ocular injuries per year.^[2] Vats et al have reported the prevalence of ocular trauma as 2.4% in an urban Indian city.^[3] Younger aged, male patients, belonging to a rural background and involved in outdoor activities were at significantly higher risk. Patient education, early diagnosis and treatment, and prompt referral to tertiary centers for specialized treatment can help to minimize visual loss.

METHODS:

This was a hospital-based, prospective, descriptive study that was conducted over a period of one year. The study was undertaken after obtaining clearance from the Institutional Ethical Committee. Patients visiting the Out Patient Department of GMC, Srinagar with the diagnosis of ocular trauma were evaluated. After explaining the purpose and procedure of the study an informed consent of the patient was taken. Demographic information, medical and surgical history, occupational history, and personal history were taken. Mode, type, and object of injury were noted.

The mechanism of injury was categorized as mechanical, chemical, or thermal. A complete ophthalmologic evaluation was done including presenting visual acuity, measured using a Snellen's chart. Detailed anterior segment evaluation was done with Slit lamp biomicroscopy. The posterior segment evaluation was done with direct & indirect ophthalmoscopes (Heine and Volk 78D Aspheric Lens). Intraocular pressure of both eyes was measured digitally/ iCare tonometer (whenever possible and whenever required). Relevant investigations like USG, X-ray orbit/skull, CT scan were done whenever indicated. Data was analyzed using a SPSS program.

RESULTS:

A total of 560 patients who attended the Eye OPD of GMC Srinagar from January 2021 to January 2022 were enrolled in the study and evaluated. The mean age of the patients was 26.42 ± 14.71 years. 72.6% of the patients were males, while as 27.4% of the patients were females.

Unilateral injury was more common, accounting for 86.14% of the cases as compared to 13.86% of bilateral cases. 73.4% of the patients had a vision of $> 6/24$ while 12.68% of the patients had a vision of $< 6/60$.

The majority of the patients were between 21-30 years of age. Table 1 shows the age distribution of the study patients.

Table 1: Age distribution of study patients.

AGE OF THE PATIENTS (YEARS)	FREQUENCY	PERCENTAGE (%)
0-10	44	12.88%
11-20	84	24.56%
21-30	101	29.53%
31-40	38	11.11%
41-50	36	10.52%
51-60	21	6.14%
≥ 60	18	5.26%
TOTAL	560	100%

Ocular injuries are most common in students followed by farmers and factory workers. Table 2 shows the occupational distribution of the study patients.

Table 2: Occupational distribution of study patients.

OCCUPATION	FREQUENCY	PERCENTAGE (%)
Student	216	38.57%
Farmer	132	23.57%
Factory Workers	67	11.99%
Laborer	43	7.67%
Business Personnel	31	5.53%
Home Maker	19	3.39%
Nil/ Economically inactive	52	9.28%
TOTAL	560	100%

Road Traffic Accidents (RTA) are the most common cause of ocular injuries. Table 3 shows the different causes of ocular injuries.

Table 3: Different causes of ocular injuries.

CAUSE	FREQUENCY	PERCENTAGE (%)
Road Traffic Accident	96	17.14%
Physical Assault	52	9.28%
Chemical Injury	26	4.64%
Pellets/ Blast/ Gunshot	20	3.57%
Vegetative Matter	38	6.78%
Sports-related (bat, ball, racquet)	59	10.5%
Stone/ Hammer/ Chisel	56	10%

Firecracker	12	2.14%
Metallic object (screw-driver, needle, knife)	36	6.42%
Welding arc	64	11.42%
Fall injury	21	3.75%
Animal bite	8	1.42%
Insect bite	29	5.17%
Miscellaneous	43	7.67%
TOTAL	560	100%

Common ocular findings were corneal foreign bodies, hyphema, eyelid edema, ecchymosis, and subconjunctival hemorrhage. A summary of ocular findings is given in Table 4.

Table 4: Summary of ocular findings in ocular injuries

OCULAR FINDING	FREQUENCY	PERCENTAGE (%)
Lids:	38	6.78%
Laceration	41	7.32%
Edema/ Ecchymosis		
Conjunctiva:	48	8.57%
Subconjunctival	20	3.57%
Hemorrhage	18	3.21%
Laceration	20	3.57%
Foreign Body		
Hyperemia		
Cornea:	72	12.85%
Foreign Body	40	7.14%
Abrasion	26	4.64%
Ulcer	42	7.50%
Laceration		
Uvea:	2	0.35%
Uveitis	63	11.25%
Hyphema	18	3.21%
Iridodialysis/ Sphincter Tear	30	5.35%
Iris Prolapse		
Lens:	18	3.21%
Cataract	4	0.71%
Subluxation/ Dislocation		
Vitreous	22	3.92%
Hemorrhage		
Intraocular Foreign Body (IOFB)	8	1.42%
Retina & Optic Nerve	18	3.21%
Orbital Injuries	3	0.53%
Globe Rupture	3	0.53%
Endophthalmitis	6	1.07%
TOTAL	560	100%

DISCUSSION:

Ocular trauma is an ophthalmological emergency and a major cause of blindness and visual morbidity throughout the world. The impact of trauma on an eye may range from minor subconjunctival hemorrhage to a deeply lacerated globe.^[4]

The age group most prone to trauma was 21 - 30 years which was in concordance with other studies. This comprises the economically productive age group and ocular injury in this age group results in great economic loss and financial burden on the family. Increased incidence of ocular injuries among young can be explained by their regular participation in social and economic activities. 24.56% of the patients were in the age group 11 - 20. This can be explained by the fact that young patients are more involved in sports and outdoor activities. Also, young people are more likely to be involved in road traffic accidents.^[5,6] For similar reasons the prevalence was ocular trauma was more in males as compared to females. In this study, 72.6% of the patients were males and 27.4% were females. Other studies also showed a higher incidence of eye injuries in males than in females.^[7,8,9]

This study shows that closed globe injuries occurred more frequently than open globe injuries. Other studies also have reported similar results.^[10,11] Ocular Injuries are most common in students and farmers due to their increased outdoor and high-risk activities. Also, the rate of seeking medical assistance is more amongst young students than in other occupational groups.

In our study, the most common ocular injury documented was corneal foreign body followed by hyphema, subconjunctival hemorrhage, eyelid edema, and ecchymosis, corneal abrasion, and eyelids laceration. A corneal foreign body was the most common finding in our study. Iron particles accidentally falling into the eye during welding was the most common cause. Other causes of corneal foreign bodies were dust particles, smoke, food particles, adhesive glues, and insect wings.^[12,13]

In our study, the major cause of ocular trauma was RTA followed by foreign body due to welding arc, sport-related injuries, injuries by stone/ hammer/chisel, and physical assault. A similar result was seen in the study done in Manipal. This study showed 61% of ocular injuries occurred in the workplace.^[14,15]

CONCLUSION:

Ocular injuries are a significant cause of visual morbidity, especially in the working-class population. Young males are more prone to ocular trauma than females and the majority of ocular trauma occurred among students and farmers. RTA is the commonest cause of ocular trauma. Public awareness and strict legislation for the use of personal protective devices can help reduce the occurrence of ocular injury. Early identification and prompt referral to tertiary centers in severe cases can help in maximizing the visual rehabilitation

Conflicts of Interest:

None

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