

OCULAR TRAUMA CASES IN CHILDREN COMING TO TERTIARY CARE CENTRE DUE TO INHOUSE INJURY DURING LOCKDOWN PERIOD

¹Dr Neha Chaudhary, ²Dr Shailaja Anand, ³Dr Yurica Moirangthem*, ⁴Dr Shashi Prabha Prasad

1. Junior Resident, Department of Ophthalmology, Dr D.Y. Patil Medical College, Hospital and Research Centre, Pune, Maharashtra, India
2. Junior Resident, Department of Ophthalmology, Dr D.Y. Patil Medical College, Hospital and Research Centre, Pune, Maharashtra, India
3. Junior Resident, Department of Ophthalmology, Dr D.Y. Patil Medical College, Hospital and Research Centre, Pune, Maharashtra, India
4. Professor and Head of Department of Ophthalmology, Dr D.Y. Patil Medical College, Hospital and Research Centre, Pune, Maharashtra, India

***Corresponding Author:**

Dr. Yurica Moirangthem,

Department of Ophthalmology, Dr D.Y. Patil Medical College, Hospital and Research Centre,
Pune, Maharashtra, India.

Email: yuricathemz@gmail.com

ABSTRACT

Background: Eye trauma or eye injury, is a significant public health issue with psychosocial ramifications that can be avoided in 90% of cases. Most common ocular emergencies in childhood are caused by open-globe injuries and require immediate care. There was an increase in household trauma amongst children during lockdown.

Materials and Methods: Retrospective observational study was done between MARCH 2020-JUNE 2021. 60 children below 14 years of age were evaluated in the emergency room and on outpatient department basis of a tertiary care hospital of Western Maharashtra.

Results: 20 were in age group 3 to 5 years, 35 were in 5 to 10 years and 5 were in age group 10 to 14 years. Out of 60 patients, 15 required surgical intervention, 35 required medical intervention and 10 patients were kept under observation. 2 patients had total loss of vision. 3 patients had significant loss of vision even after intervention was done, 45 patients regained their vision within 2-month period from the day of trauma and 10 patients did not have loss of vision.

Conclusion: Long term close follow ups are essential to prevent irreversible blindness in childhood ocular trauma cases. Counselling the children and the parents plays a key role in the management of these cases and to reduce incidence of ocular trauma at home during lockdown period.

Keywords: eye trauma, Inhouse Injury, counselling

Introduction

Eye trauma or eye injury, is a significant public health issue with psychosocial ramifications that can be avoided in 90% of cases.¹⁻³ The patterns of ocular injuries in children differ from those in adults, necessitating various care strategies. Injuries like fingernails from parents, caregivers, or siblings are common in children under 3 years of age. Preschoolers occasionally sustain injuries from toys, tree branches, pencils, sports, and stones, among other things.^{4,5} Open-globe injuries are the most frequent cause of paediatric ocular crises, which call for quick attention.

Most common ocular emergencies in childhood are caused by open-globe injuries and require immediate care.⁶ Better visual results are provided through patient and community education on eye injuries, it is also important to educate the parents about early treatment for good visual prognosis.⁷ Late presentation results in poor visual prognosis in these children.

Incidence of childhood ocular trauma is almost same in urban and rural community. There was an increase in household trauma amongst children during lockdown.

This study will assist in determining the prevalence of the childhood preventable blindness, to also identify the contributing factors responsible, and ways to prevent these contributing factors in pandemic situations

Materials and Methodology

Retrospective observational study was done between MARCH 2020- JUNE 2021. 60 children below 14 years of age were evaluated in the emergency room and on outpatient department basis of a tertiary care hospital of Western Maharashtra.

The study was conducted after approval from Institutional Ethics Committee. Data was collected after written informed consent from parents. Demographic information, history regarding mechanism of injury, time of injury was taken. Landolt C chart and Snellen's charts were used to check the visual acuity in older children. Visual acuity in preverbal children was evaluated with Cardiff Acuity cards. The ocular examination was done using slit lamp, and an indirect ophthalmoscope with a +20 Diopter lens was used to visualise the fundus where media was clear. B-scan, X-ray orbit AP/Lateral, and computed tomography scan of the orbit were done wherever necessary.

Un-cooperative and young children were examined under general anaesthesia before any intervention. Patients were followed up on day 1, day 7, 1st month. Final best-corrected visual acuity (BCVA) was checked after 6 months.

Result

During period march 2020-June 2021 total 60 children had reported to tertiary care hospital with trauma to eye. Out of 200 children examined, 60 presented with ocular trauma. 20 were in age group 3 to 5 years, 35 were in 5 to 10 years and 5 were in age group 10 to 14 years Children aged 5-10 years (were most frequently impacted, followed by preteens and early teenagers between the ages of 11 and 15 years. There were (45) boys and (15) girls. Children from rural and urban areas did not vary much from one another. (55%and 45%, respectively)

52 children (86%) had injury in one eye and 8 children (13%) had injuries in both the eyes. The injuries were classified into globe involving (89%) and non-globe (11%) involving injuries, which included adnexal injuries and fractures of orbital bone.

Only 12 patients presented within 6 h after injury, 44 presented between 6 and 24 h after injury, 4 while presented 24 h after injury.

Out of 60 patients, 15 required surgical intervention, 35 required medical intervention and 10 patients were kept under observation. 5 patients underwent foreign body removal with corneal suturing, 3 patients with self-sealed corneal perforation followed which they developed traumatic cataract and cataract surgery was done for the same. 3 patients had subluxated lens, were operated for the same, 2 patients had retinal detachment following blunt trauma for which they were operated. 1 patient developed post traumatic hyphaema for which blood from the anterior chamber was aspirated, 1 patient underwent pars plana vitrectomy with intravitreal antibiotic injections for endophthalmitis

Out of 60, 2 patients had total loss of vision. 3 patients had significant loss of vision even after intervention was done, 45 patients regained their vision within 2-month period from the day of trauma and 10 patients did not have loss of vision.

Figure 1. Showing type of injury

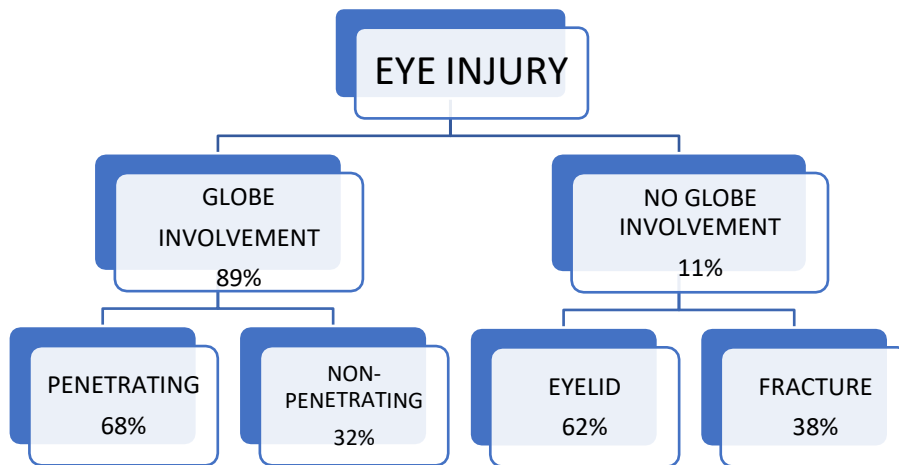
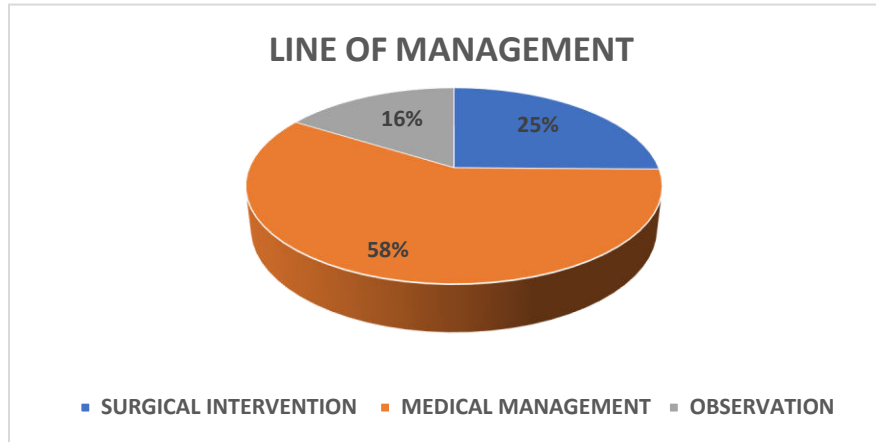


Table 1: Showing mode of injury

| MODE OF INJURY | NO OF CASES |
|--|-------------|
| SUPERFICIAL- glue, sand, vegetable matter | 20 |
| SPORTS | 6 |
| METALLIC | 8 |
| STICK INJURIES- broomstick, wood stick and needle. | 12 |
| BLUNT TRAUMA | 10 |
| CHEMICAL INJURY | 4 |

Figure 2: Line of management of ocular trauma



Discussion

Trauma to the one or both eye is one of the major causes of childhood blindness in Western Maharashtra. Incidence of ocular trauma was more during the lockdown period, as home is the most common place of injury amongst children as evidenced by studies.⁸⁻¹⁰

In our study 30% children of 200 who presented in our tertiary care setup during COVID period had ocular trauma. Chakraborti et al in his study, done in Eastern India concluded that home was the most common place of injury (44%).

Saxena in his study found that children aged 5 and older suffered the majority of injuries. (87.7%)

In our study the usual afflicted age group was 5-10 years of age. It was observed male children were more affected than females. Male children express more uninhibited behaviour than females.¹¹ This could be the reason of increased incidence of trauma in male gender

This study was done to understand the causative factors involved in ocular trauma causing irreversible blindness amongst children. Easily accessible materials like sand, vegetable matter, glue is the main mode of injury.

Conclusion

Long term close follow ups are essential to prevent irreversible blindness in childhood ocular trauma cases.

Counselling the children and the parents plays a key role in the management of these cases and to reduce incidence of ocular trauma at home during lockdown period

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