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A Study of Clinical Profile of Patients with Traumatic Cataract

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Abstract

Background: Traumatic cataracts cause a significant amount of vision loss and blindness in the general population, particularly in underdeveloped nations. It's associated with a variety of ocular injuries.

Objectives: To study the clinical profile of traumatic cataract patients.

Methods: A total of 50 patients who satisfied the inclusion criteria were recruited for the study, and a comprehensive history was obtained. A thorough slit lamp examination was performed using a torch light under diffuse lighting.

Results: In majority of the patient's total cataract was done in 86% of the cases. Among the associated ocular damage, corneal injury was seen in 62% of the patients, And associated ocular complication was Lens matter in anterior chamber reported in 22% of the cases, Uveitis in 8% of the cases and Glaucoma was reported in 6% of the cases.

Conclusion: Traumatic cataracts result in considerable vision impairment, psychological distress, and a major financial burden. To avoid vision loss in traumatic cataract patients, a better knowledge of these injuries is required. Appropriate health awareness education, as well as early prevention, is required among the population.

Keywords: Trauma, Cataract, Slit lamp, Glaucoma

Introduction

Ocular trauma is considered one of the most serious public health issues in the globe. It is the world's single most common cause of acquired monocular blindness. Ocular damage causes around 1.6 million individuals to go blind across the world.[1] Ocular trauma is thought to be responsible for around 40% of monocular blindness.[2] Cataract advancement occurs as a result of trauma. After a variety of ocular insults, including blunt and penetrating trauma, a traumatic cataract can occur. Infrared energy, ionising radiation, and UV radiation are all rare causes of traumatic cataract.[3]

Domestic injury is the most prevalent type of injury in children, which occurs most frequently while they are playing at home or at school. Young people are the most prevalent victims of sports and work-related eye injuries, followed by accidents caused by youngsters participating in high-risk sports lacking supervision or protective measures.[4]

Cataracts can be caused by both penetrating and traumatic injuries. The visual prognosis of traumatic cataract is determined by the type of ocular trauma, the level of lenticular involvement, and any ocular structural damage. The time of intervention has been stressed that for a better prognosis, cataract surgery should be performed within a year of the initial procedure in adults and within six months of the initial surgery in children.[5]

Traumatic cataract has a physiological, social, and monetary impact on the quality of life of younger people, thus it's crucial to understand the clinical

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profile for proper treatment. The purpose of this study was to look at the clinical characteristics of individuals who had traumatic cataracts.

Materials and Methods

Type of Study: Retro prospective Cross-sectional study.

Study Setting: Department of Ophthalmology. Sarojini Devi eye hospital

Study Duration: 2 years, 2019 to 2021

Inclusion Criteria:

- Traumatic cataract patients
- Exclusion Criteria:
- Those unwilling to participate in the study.

A total of 50 patients who satisfied the inclusion criteria were recruited for the study, and a comprehensive history was obtained. A thorough slit lamp examination was performed using a torch light under diffuse lighting. Where applicable, intraocular pressure was measured using Goldmann applanation tonometry.

Statistical analysis: The data was analysed using SPSS 22 software and the outcome was presented in the form tables with percentages.

Observation and Results

Table 1: Distribution based on demographics

Gender	No of patients	Percentage
Male	34	68%
Female	16	32%
Age group (years)		
11-20	6	12%
21-30	14	28%
31-40	13	26%
41-50	12	24%
51-60	5	10%

Male predominance was seen with 68% and females were 32%. The male: female ratio was 2.1: 1.

Majority of the patients belonged to the age group of 21 to 30 yrs with 28% followed by 31 to 40 yrs with 26%, 24% belonged to the age group of 41 to 50 yrs age, 12% belonged to the age group of 11 to 20 yrs and the least belonged to the age group of 51 to 60 yrs. The mean age was 34.17 $\pm$ 4.37 yrs.

Table 2: Distribution based on type, cause and duration of trauma

Type of trauma	Number of cases	Percentage
Blunt	13	26%
Penetrating	37	74%
Cause of trauma		
Rod/ stick	27	54%
Stone	7	14%
Glass	2	4%
Wired fence	10	20%
Ball	4	8%
Total	50	30
Duration of trauma		
$\leq$ 1 week	2	4%
$\leq$ 1 month	16	32%
$\leq$ 1 year	25	50%
>1 year	7	14%
Total	50	100%

In majority of the cases, it was penetrating trauma reported in 74% of the cases and blunt trauma was seen in 26% of the cases. Most common cause of trauma was due to rod/stick in 54% of the cases, followed by wired fence in 20% of the cases, stones in 14% of the cases, ball in 8% of the cases and glass in 4% of the cases. Majority of the patients around 50% presented within a year after trauma, 32% of the cases presented within a month of trauma, 14% took more than a year after trauma for cataract and only 4% of the cases presented within a week of trauma.

Table 3: Distribution based on type of cataract

Type of cataract	No of patients	Percentage
Total cataract	43	86%
Soft cataract	3	6%
Subcapsular cataract	2	4%
Rosette cataract	2	4%
Total	50	100%

In majority of the patients total cataract was done in 86% of the cases, soft cataract was done in 6% of the cases, subcapsular and rosette cataract was done in 4% of the cases each.

Table 4: Distribution based on associated ocular damage

Associated Ocular Damage	No of patients	Percentage
Corneal injury	31	62%
Iris injury	16	32%
Vitreous haemorrhage	2	4%
Associated Ocular Complication		
Lens matter in anterior chamber	11	22%
Uveitis	4	8%
Glaucoma	3	6%
Total	30	100%

Among the associated ocular damage, corneal injury was seen in 62% of the patients, Iris injury was seen in 32% of the cases, Vitreous haemorrhage was seen in 6% of the cases.

The associated ocular complication was Lens matter in anterior chamber reported in 22% of the cases, Uveitis in 8% of the cases and Glaucoma was reported in 6% of the cases.

Discussion

The most prevalent cause of unilateral cataract is trauma. A primary repair of a corneal, iris, or scleral wound, as well as a comprehensive evaluation of injury to the intraocular structures, may be required at the time of presentation following an eye injury. Prior to surgery, a comprehensive assessment of the nature and degree of the ocular injury, meticulous planning, and counselling are critical to the successful management of these cases.[6]

The incidence of trauma in this study age group was more in the teenage years compared to other studies who reported in children since they were paediatric studies who focussed on the study population while this study had included patients with all age groups. In previous studies, the incidence of traumatic cataract was shown to be higher in the younger age group. Daljit Singh has a similar age demographics.[7]

In this study 54% of the cases had trauma due to stick/ rod. Injury occurred as a result of their regular activities, such as playing with or handling such things at home or in their neighbourhood, which is similar to previous studies by Krishnamachiary M et al[8] and Memon MN et al reported that 54.7 % and 44 % of patients, respectively, sustained stick injury.[9]

The kind of damage and the form of the cataract were also found to have statistical relevance. In this study, Majority had total cataract surgery, while Shah et al observed soft cataract in the majority of cases.[10]

The most common related ocular morbidity was corneal involvement. These findings backed with previous research that found corneal impairment to be the most prevalent related injury. According to Memon et al., 2012, the interval between damage and cataract surgery had no effect on the ultimate visual result of traumatic cataract patients, and that these patients, if treated appropriately, had a satisfactory visual prognosis.

Trauma can be reduced with awareness and caution. Because corneal involvement is one of the most prevalent morbidities associated with traumatic cataract, the need of early reporting and proper follow-up, particularly those suffering from traumatic cataract, must be emphasised.

Conclusion

In India, traumatic cataracts result in considerable vision impairment, psychological distress, and a major financial burden. To avoid vision loss in traumatic cataract patients, a better knowledge of these injuries is required. Appropriate health awareness education, as well as early prevention, is required among the population.

Ethical Clearance: The ethical clearance was obtained from Government Medical College prior to the commencement of the study.

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Conflict of Interest: Nil

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