Traumatic Cataract Epidemiology at Tertiary Care Hospital in Aurangabad Maharashtra India: An Observational Study

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Research Article

Abstract: **Background:** Traumatic cataract due to ocular injury affects a significant number of people from the younger age group. Thus traumatic cataract often deprives its victim of vision in the prime of his life. The knowledge of causes of ocular injury is very essential for designing the strategy to take preventive steps against it. **Methods:** Total of 1308 cases of eye injuries were recorded during the research period at the OPD Ophthalmology. The cases included both extra ocular and intraocular injuries. 74 patients presented with traumatic cataract. However, patients with posterior segment pathologies and with intraocular foreign body were excluded as they were immediately referred to specific units or higher centres and were not available to participate in our study. Total 62 cases of traumatic cataract which presented during the study period were included in analysis. Detailed history and clinical examination was done. The age and sex distribution and etiology of traumatic cataract cases included in the study was described. **Results and Conclusion:** The age range from 4 to 65 years was seen and most of the cases belonged to age group of 10 to 40 years. Thus, younger age group was more commonly affected. Proportion of males was very high i.e 77.42% as compared to 22.58% females. Penetrating Injury was more common with 42 out of 62 cases. (67.7%). Agricultural accidents were the commonest cause of injury contributing 25 cases out of 62 cases (40.32%) and wooden stick was the most common agent causing ocular trauma leading to cataract.

Keywords: Traumatic Cataract, Tertiary Care Hospital.

Introduction

Ocular trauma is one of the leading causes of visual morbidity all over the world. [1] Visual morbidity not only affects the individual, but also exerts a burden over the health care system of country. [2,3] Developing world faces the challenge of trauma as a significant contributor of monocular blindness. [4] The causes of injury to the eye are different in different geographical areas.[5-7] Ocular trauma can lead to traumatic cataracts which contribute to notable visual morbidity. [4] Crystalline lens forms an important component of optical system of eye and its transparency and integrity is vital for normal functioning of the eye. In this era of industrialization, the incidence of traumatic cataract has increased inspite of the fact that eyes are well protected by the lids, projected margins of the orbit, the nose and cushion of fat from behind. Traumatic cataract due to ocular injury affects a significant number of people from the younger age group. Thus traumatic cataract often deprives its victim of vision in the prime of his life. The knowledge of causes of ocular injury is very essential for designing the strategy to take preventive steps against it. This also helps to properly channelize the resources towards prevention of ocular injury. The burden of ocular injury on the victim as well as society is very large and potentially preventable. [6] However, there is scarcity of literature on epidemiologic information about traumatic cataract. [8] The present study was done to evaluate the incidence, age and sex distribution and etiology of traumatic cataract at the tertiary care hospital in Aurangabad district of Maharashtra, India.

Material and Methods

Study Design: Descriptive Observational Study

Study Site: Department of Ophthalmology, Government Medical College, Aurangabad (MS) INDIA.

Study Period: January 2001 to December 2001

Total of 1308 cases of eye injuries were recorded during the research period at the OPD Ophthalmology. The cases included both extra ocular and intraocular injuries. 74 patients presented with traumatic cataract. However, patients with posterior segment pathologies and with intraocular foreign body were excluded as they were immediately referred to specific units or higher centres and were not available to participate in our study. Total

62 cases of traumatic cataract which presented during the study period were included in analysis. Detailed history and clinical examination was done. The age and sex distribution and etiology of traumatic cataract cases included in the study was described.

Observations and Results

Incidence: Total 74 cases of traumatic cataract were seen among 1304 cases of ocular injury with an incidence rate of 5.65%. However 62 cases were included for further analysis.

Age distribution: The age range from 4 to 65 years was seen and most of the cases belonged to age group of 10 to 40 years. Thus, younger age group was more commonly affected.

Sex Distribution: Proportion of males was very high i.e 77.42% as compared to 22.58% females.

Male: Female ratio was **3.43: 1**.

Affected eye: Right eye was affected in 35 cases out of 62 i.e. 56.5%

Left eye was affected in 27 cases out of 62 i.e. 43.5%

Type of Injury: There was higher proportion of cases of penetrating injury as compared to blunt trauma.

Penetrating Injury cases: 42 out of 62 cases. (67.7%)

Blunt trauma cases: 20 out of 62 cases. (32.3%)

Etiology of Trauma

Agricultural accidents were the commonest cause of injury contributing 25 cases out of 62 cases (40.32%). It included injury by wooden stick, branch of tree, thorn, sugarcane leaf. Wooden stick was the single most common insulting agent leading to traumatic cataract. Other occupational accidents contributed to 17 cases (27.41%) forming the second major etiological group. Domestic accidents led to 9 cases (14.51%). Children with injuries while playing contributed 4 cases (6.45%). 3 cases (4.83%) of Traumatic cataract due to assault were seen and Road traffic accidents caused 3 cases (4.83%).

Table 1: Age Distribution of Traumatic Cataract

Age in years	Male	Female	Total
Below 10	08	01	09
10 to 20	19	07	26
21 to 30	08	02	10
31 to 40	10	03	13
41 to 50	01	---	01
51 to 60	01	---	01
61 to 65	01	01	02
Total	**48**	**14**	**62**

Table 2: Etiology of Trauma

Agricultural Accidents	
Wooden Stick	13
Branch Of Tree	09
Thorn	02
Sugarcane Leaf	01
Total	**25**
Other Occupational Accidents	
Metal Wire	05
Stone	11
Iron Rod	01
Total	**17**
Domestic Accidents	
Glass	03
Scissor	02
Sewing Needle	02
Broom Stick	02
Lead Pencil	01
Total	**10**
Assault	
Hand	02
Fist	01
Total	**03**
Accidents While Playing	
Cricket Ball	01
Toy Arrow	01
Iron Nail	01
IV Set Drip	01
Total	**04**
Road Traffic Accidents	**03**
Unknown	**01**

Discussion and Conclusion

Incidence of traumatic cataract was 5.65% among the cases of ocular injuries in our study. M Krishnan *et al.* [9] observed 1704 cases of ocular injuries and found 110 cases of lens injury with incidence of 6.45%. Our study is in line with their results regards to incidence. However M Blum [10] found the incidence of traumatic cataract to be 30.65% while Macewan [11] found only 0.02% incidences. Thus, there is a wide variation in incidence of traumatic cataract in ophthalmology literature. Younger age group of 10 to 30 years was most commonly affected in our study and males contributed 77.42% cases. Duke-Elder [12] also reported highest incidence in adult male life with males contributing more than 80% cases. Daljit Singh [13] operated 61 cases and found male preponderance with 83.29% male cases. In our study penetrating injury was a more common type of injury as compared to blunt trauma leading to traumatic cataract in 67.74% cases. Bhatia [14] reported 76.3% cases with penetrating injury. Daljit Singh [13] reported 54% penetrating injury cases while Angra *et al.* [15] reported only 34.4% penetrating injury cases. Agricultural accidents were the most common etiology and wooden stick was the commonest object of insult leading to traumatic cataract. Tewari *et al.* [16] and Krishnan *et al.* [9] also reported stick as the commonest offending agent. Further studies are needed to ascertain the causes of traumatic cataract and to take appropriate preventive measures. Efforts should be taken to educate the people regarding common causes and also preventive measures

should be implemented at workplace to prevent occupational causes of traumatic cataract.

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