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Review Article

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Spectrum of Ocular Trauma Presenting to ophthalmic OPD

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Abstract

Introduction: *Ocular trauma is one of the most common causes of vision loss. Etiologies of ocular injury differ from area to area and from country to country, difference according to demographic or socioeconomic classes have been reported. Measures to be taken for prevention of ocular trauma require knowledge of the cause and mechanism of injury, which may enable more accurate planning to prevent such injuries.*

The classification of ocular trauma with standardized terminology was developed by Kuhn and associates. The International Society of Ocular Trauma subsequently used this terminology to develop a classification system for mechanical injuries of the eye. This study was conducted to identify the etiology and nature of ocular trauma affecting our population.

Aim: *To identify the causes of ocular trauma and determine the types of various injuries presenting to the ophthalmic OPD Al-Thawra central hospital Al-Baida Libya.*

Subjects and Methods: *80 patients included in this study Presented to ophthalmic OPD Al-Thawra central hospital Al-Baida Libya with history of Trauma during a period of three months. Following data were collected: patient's age, gender, affected eye, etiology of trauma, place of trauma, visual acuity and Ocular Injury to time of presentation.*

Result: *There were 80 eyes of 80 patients, of which 77.50% were males and 22.50% were females. The ages ranged from 1–50 years. The highest incidence of trauma was seen in the 21– 30-year age group (30.0%). Blunt trauma occurred in 42.5% of cases and foreign body trauma in 33.3% of cases. The highest incidence of eye injury occurred at workplace (50.0%) followed by the Home (22.5%), then Playground (20.0%). Assault-related eye injury was seen in 25% of cases and 75% of all injuries were accidental.*

Conclusion: *Education programs regarding the safety measures to be taken to protect the eyes during work and other activities will be quite helpful to minimize the incidence of ocular trauma among the risk groups.*

Keywords: Blunt Trauma, Eye Injuries, Libya, Al-Thawra, Central Hospital

Results

A total of 80 eyes of (80 patients) included in this study. 62out of 80 were males (77.5%) and 18 (22.5%) were females. ratio of male to female incidence of eye injury is > 3.4:1. The ages ranged from 1–50 years. The subjects divided into three age groups: 1-10 years old (23.75%), 11–20 years old (20%) and 21-30 years old (30%), 31–40 years old (17.5%) and 41-50 years old (8.75%). Males experienced ocular trauma than females in all age groups.

Table 1: Age /gender distribution

Percentage %	Female	Male	No. of Participants	Age group
01-10 years	07	12	19	23.75
11-20 years	01	15	16	20.00
21-30 years	06	18	24	30.00
31-40 years	01	13	14	17.5
41-50 years	03	04	07	08.75
Total	18	62	80	100%

Table 2: Ocular Injury to time of presentation

Ocular Injury to time of presentation	No. of Participants	Percentage %
Less than 1Hour	33	41.25
1-less than 8 Hours	11	13.75
8 Hours – 24 Hours	14	17.5
More than 24 Hours	22	27.5

Table 3: Agent for ocular trauma

Agent	No. of Participants	Percentage %
Sharp objects	44	55
Blunt objects(Stone)	18	22.5
Finger	5	6.25
Toys	4	5
Fall down	3	3.75
Road traffic accident	2	2.5
Chemicals	2	2.5
Fist	2	2.5

The majority (55.0%) of injuries were caused by sharp objects (Table3). These were of various materials including metallic, plastic and glass objects. Followed by blunt Trauma mostly with Stones. Accidently injuries with fingers 6.25%. Toys result in 5%.fall down 3.75%. There was a similar incidence of Assault injuries with hand fist, Chemicals and Road traffic accident causing injury 2.5% each. Most of eye injury occurred at workplace (50.0%) followed by Home (22.5%), then Playground (20.0%). Assault-related eye injury was found in 25% of cases and 75% of all injuries were accidental. Most of the cases (27/40) 67.5% subjected to corneal foreign bodies at Work place in which eye protection was not used during hammering or welding, Blunt trauma injuries occurred in17.5% [7/40] (Table 4).

Table 4: Type of ocular trauma according to place of injur

Place	No. of Participants	Blunt trauma	Foreign body	Penetrating trauma
Work place	40	7	27	4
House	18	12	2	4
playground	16	10	4	2
Classroom	4	3	0	1
Road traffic accident	2	2	0	0

Type of Ocular Trauma

Eye injuries included blunt trauma (34/80; 42.5%), corneal foreign body injury (33/80; 41.5%) and perforating injury (13/80; 16.25%) (Figure 1).

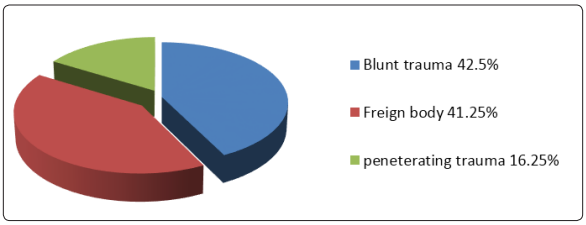

Figure 1: Types of ocular trauma

Table 5: Impact of ocular trauma among injured eyes

Impact of ocular trauma	No. of Participants	Percentage %
Conjunctival laceration	2	2.5
Subconjunctival hemorrhage	13	16.25
Hyphema	5	6.25
Lid Ecchymosis	8	10
Lid Laceration	4	5
Corneal abrasion	22	27.5
Corneal full thickness tear	5	6.25
Corneal Foreign body	21	26.25

Visual Acuity

65% of the affected eyes showed a visual acuity on presentation (1.0-0.33) while in (11.25%) visual acuity was (finger count less than 3meters).

Table 6: Visual acuity at presentation in injured eye

Visual acuity *	No. of Participants	Percentage %
1.0 - 0.33	52	65
0.25 - 0.10	13	16.25
0.05 – finger count 3meters	06	7.5
Less than finger count 3meters	09	11.25

Visual acuity (snellen's fraction)*

Discussion

Ocular trauma has been investigated in many population Studies from different regions demonstrate variations in the characteristics, incidence and prevalence of ocular trauma. In this study, we interpreted variety ocular injuries, which disturb Patient's normal activities or push him or her to seek medical care as emergency case. This study showed that Libyan males are more subjected to eye injury than females, with a male: female ratio of 3.4:1 this was comparable to other studies varying between 1.74 and 5.5. The highest incidence of ocular trauma occurred in the 21–30-year age group [1-11].

The highest incidence of ocular trauma in our study occurs at work place followed by Home, and then playground. Foreign body trauma injuries were the most frequent types of injuries occurring in the work place. In the study patients aged (1-10) years represent 23.75% of affected eyes. Among them males were more affected than females, with male: female ration 1.71: 1 this is because in our population male children participate in hard activities outside home more than females most of ocular injuries in this group occurred at playground (16/19). Out of 16 children10 of them subjected to blunt trauma mostly with stone followed by 4 children subjected to foreign body injuries.

Conclusion

Males have a high-risk ratio of ocular trauma. The majority of eye injuries occur in the work place environment. Most injuries were accidental and could be avoided with the use of eye protection or

care with interpersonal and work-related activities. Stress on the education programs regarding the safety measures to protect the eyes during work and other activities along with more awareness of children during different activities at and outside home will be quite helpful to minimize the incidence of ocular trauma among the risk groups.

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