Original Article

Ocular Injuries

Ocular Injuries - An Experience at Anwar Paracha Eye Hospital Sukkur

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ABSTRACT5.

Objective: To provide the spectrum of ocular trauma, their potential hazards and propose preventive measures**.**

Study Design: Retrospective Descriptive

Place and Duration of Study: This study was conducted in the departments of Anwar Paracha Eye Hospital (APEH) & Forensic Medicine Ghulam Mohammmad Mahar Medical College Sukkur (GMMMCS) & Chandka Medical College Larkana (CMCL), constituent colleges of Shaheed Mohtarma Benazir Bhutto Medical University Larkana (SMBBMUL) from January to December 2013.

Materials and Methods: The present study was conducted from the records of patients of ocular injuries who attended Anwar Paracha Eye Hospital GMMMC Sukkur with association of departments of Forensic Medicine of GMMMC Sukkur& CMC Larkana, the constituent colleges of SMBBMUL.

Results: Of all patients visited APEH, 1.016% cases were of ocular injuries with Male to Female ratio of 8.34:1. The most vulnerable age group was 11-30 years (67.14%). On presentation in most of cases 130 (46.43%) had visual acuity 6/9 & on follow up 6/6 in 200 (71.43%) cases. The mainly sharp objects in 200 (71.43%) cases were to cause injury and mostly manner of injury was an accident in 212(75.72%) cases.

Conclusion: Majority of the cases were male of young age injured by sharp object due to accident with good prognosis of visual acuity.

Key word: Ocular, Injury, Frequency, Accidents

INTRODUCTION

In our body eyes are in prominent location, though protected by the blinking lids, orbital bones and cushioned retro-bulbar fat but more prone to trauma by variety of substances specially at workplace in daily life[1]. Every year more than half a million ocular injuries causing blindness worldwide that restrict activities for more than a day and approximately 19 million have unilateral permanent reduction in sight at least & 1.6 million people are blinded because of ocular injuries[2].

The variety of articles that may be put to use as weapon like knife, razor, stick, stone, needle dagger, icepick, fire-arm[3]. The weapon is described as any article made or adapted for use to cause injury to the person[4]. The weapons causing eye injuries are categorized into blunt, sharp/penetrating and foreign bodies. A trauma produced by blunt weapon to the eye may result in a spectrum of injuries ranging from a simple ' Black eye' to traumatic mydriasis, iridodialysis, hyphaemia, concessional cataract, lens subluxation or complete dislocation, retinal dialysis, retinal oedema & haemorrhage, vitreous haemorrhage, a retinal blood vessel injury by compressing anterio-posteriorly & stretching in the equatorial plane correspondingly[2]. Sharp/Penetrating eye injuries depend on where & how for the object enters into the eye, Isolated to cornea or corneo-sclera, Anterior & posterior segments of eye ball. Foreign bodies as they enter & pass through the eye if not removed rapidly (1) may cause toxicity to tissues as they degrade or oxidize or (2) damage to the intraocular contents.

The rationale is that the eye injuries are generally considered in the context of clinical eye care delivery system and not awareing the public of their potential hazards and preventive strategies commonly, so the present study is an attempt to address this deficit in this zone by providing the profile of ocular injury cases.

MATERIALS AND METHODS

The present study was conducted from the records of patients of ocular injuries who attended Anwar Paracha Eye Hospital GMMMC Sukkur with association of departments of Forensic Medicine of GMMMC Sukkur& CMC Larkana, the constituent colleges of SMBBMUL from January to December 2013. The variables considered gender, age, type of weapon, visual acuity assessed by Snellien chart& manner of injuries were entered in Statistical Package of Social sciences (SPSS) version-17. Findings were expressed in numbers & percentage. This study was approved by the Ethical Review Committee of Shaheed Mohtarma Benazir Bhutto Medical University Larkana.

RESULTS

A total 27542 patients visited to eye Hospital, of which 280 (1.016%) were enrolled of ocular injuries as shown in graph No: 1. Out of 280, males were 250 (89.29%) and females 30 (10.71%) with M:F ratio 8.34:1 as shown in graph No: 2. Majority of the patients 106

(37.86%) were between 21-30 years of age followed by 82 (29.28%) patients in 11-20 years age group and the least number of cases 07 (2.50%) in age group of 61 & above years as shown in table No: 1.

Table No. 1: Age distribution (n=280)

Age group	No	%age
Less than 10 years	25	8.93
11- 20 years	82	29.28
21-30 years	106	37.86
31-40 years	26	09.28
41-50 years	24	08.57
51-60 years	10	3.57
61 & above	07	2.5
Total	**280**	**100%**

Table No. 2: Co-relation of kind of weapon to type of injury. (n=280)

Type of injury	Kind of weapon	No	%	Total (%)
sharp	Scissor	77	27.5	200 (71.43%)
	Knife	42	15.00	
	Screw driver	30	10.71	
	Used syringe needle	16	05.71	
	Wind screen glass	12	04.29	
	Iron rod	10	03.57	
	Tip of ball point pen	05	01.79	
	Air gun	04	01.43	
	Kite stick	04	01.43	
Blunt	Stone	12	04.29	50 (17.43%)
	Hand bell	10	03.57	
	Tennis ball	08	02.86	
	Gili danda	06	02.14	
	Edge of brick	04	01.43	
	Tree twig	02	00.71	
	Door handle	02	00.72	
	Unknown	06	02.14	
Foreign body	Cracker	09	03.21	30 (10.71%)
	Explosive material	07	02.50	
	Air gun pellets	04	01.43	
	Metallic foreign body	10	03.57	
Total	_____	280	100%	280 (100%)

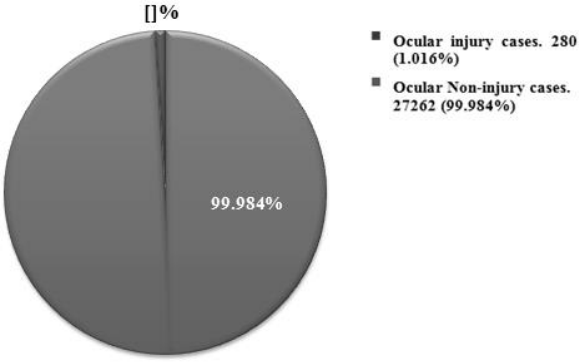
Sharp objects were the most common 200 (71.43%) followed by blunt 50 (17.86%) and the least involvement by Foreign bodies 30 (10.71%) to cause the ocular injuries as shown in table No: 2. The visual acuity on presentation was as; in patients 90 (32.14%) 6/6, 130 (46.43%) 6/9, 12 (4.29%) 6/18, 18 (6.43%) 6/36, 23 (8.21%) 6/24, 05(1.79%)<6/60 and 02 (0.71%) PI +ve on Snellen Chart while on final presentation had visual acuity as; 200 (71.43%) 6/6, 46 (16.43%) 6/9, 04 (1.43%) 6/18, 07 (2.5%) 6/36, 17 (6.07%) 6/24, 04 (1.43%) <6/60 & 02 (0.71%) +ve as shown in table NO. 3. The manner of injuries was accidental in 212 (75.72%) and 68 (24.28%) homicidal as shown in table No. 4.

Table No. 3: Visual acuity. (n=280)

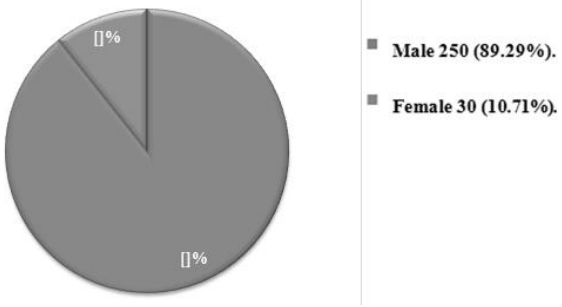
No of patients on presentation	Visual acuity	No of patients on final presentation	Visual acuity
90 (32.14%)	6/6	200 (71.43%)	6/6
130 (46.43%)	6/9	46 (16.43%)	6/9
12 (4.29%)	6/18	04 (1.43%)	6/18
18 (6.43%)	6/36	07 (2.5%)	6/36
23 (8.21%)	6/24	17 (6.07%)	6/24
05(1.79%)	<6/60	04 (1.43%)	<6/60
02 (0.71%)	PI+ve	02 (0.71%)	PI+ve
Total: 280 (100%)	-----	**280 (100%)**	------

Table No.4: Distribution manner of injury. (n=280)

Manner of injury	No	%age
Accidental	212	75.72
Homicidal	68	24.28
Total	**280**	**100%**



Graph No. 1 Distribution of ocular injuries (n=27542)



Graph No. 2: Distribution of gender (n=280)

DISCUSSION

Injuries to the eye are more common & deleterious in their effects specially in developing countries than developed. In this study among 280 patients 250 (89.29%) were male and female 30 (10.71%) with M:F ratio of 8.34:1 while in other studies M:F ratiois 2.56:1[5], 2.85:1[6], 3:1[7], 4.78:1[8],5:1[9],5.49:1[10].High

incidence of ocular injury was seen in males because of occupational exposure, taking part in aggressive activities. Our study shows the age distribution for the occurrence of ocular trauma is maximum106 (37.86%) in 21-30 years age group and the second peak82 (29.28%) in the 11-20 years. The propensity towards young and school going children in our study is respectively parallel to the trends reported by Akram et al[11], Gyasi et al[12], Maurya et al[13], Sukati & hansraj[14,15].Higher preponderance in children & young individuals indicates that children have decreased ability to detect and avoid potential hazards because of non-supervision at play & domestic activities while young ones are more aggressive, occupational exposure, participation in dangerous sports & hobbies, alcohol use & risk taking behavior. Our study represents 71.43% injuries caused by sharp objects and studies conducted by L.O One we 13.4%[16]& Guly et al3.3%[17] are in contrast. Injuries by blunt weapon in our study shows 17.86% that is in consistent to study conducted by Sintuwong & Winitchai 19.2%[8] and in contrast in studies by Voon et al 12.6%[18],Nqo & Leo 4%[19], Gyasi et al 41.3%[12],Zelalem Addisu 40%[20]& Zaqeiboumet al 60%[21]. Foreign bodies lodged in eyes in our study is 10.71% while in studies by Babar et al11.8%[22], Cilino et al 16.8%[10], Aghadost & others 6.1%[9] are almost in same incidence. Higher incidence by sharp objects is due to urban population, industrial area where there is easy accessibility to such objects. This study shows a good initial visual acuity 78.57% study by Cilino et al[10] because of minor injuries in most of the cases involving the eye- lid, conjunctiva, cornea and anterior chamber of an eye having association with a good visual prognosis than posterior chamber trauma and the modern surgical & medical management as well as the better awareness of urban population than rural population to reach the Eye emergency room earlier. Our study shows in 212 (75.72%) cases accidental injuries which is in parallel to study conducted by Vats & other authors 87.1%[23] and assault cases are 68 (24.28%) in our study that is nearly in consistent with study of Babar et al 37.37%[24] and in contrast to Shashikal & others 3.3%.[25].The high rate of accidental injuries is due to ill-fitting or non-availability of protective measures at work place, poor vision due to fogging from sweat, specially in children & young people because of decreased ability to detect & avoid potential hazards, unsupervision at play and domestic activities as well as taking part in dangerous sports.

CONCLUSION

The mostly cases were of male gender in the age of children & adults. The injuries caused mainly by sharp objects resulted in visual impairment initially but with good final vision because of advanced technology. The accident was the main manner of injury.

Recommendation: Adequate supervision of children Educational measures to reduce accidents by arranging seminars, information through media etc.
Maintain Eye Trauma Registry in the department of ophthalmology nationwide in order to provide proper ocular trauma statistics.

Acknowledgement: The authors are thankful to Mr. Nadeem Ali Khokhar, Computer Operator for typing the manuscript**.**

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