

Eye Injuries: a Retrospective Survey of 292 Cases

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Abstract: Eye trauma is a disabling condition and results in a substantial cost for the patients and the society. The condition is one of the common causes of blindness in the world. This study was conducted to characterize the eye trauma of the patients at the Boo-Ali Sina university affiliated hospital 21 March 2007 to 20 March 2011. The study was performed through retrospective case note review in all patients sustained eye trauma between the years of 2007 through 2011. ICD-10 coding system was used for data collection and SPSS software for the statistical analysis. During the study period, 292 patients with eye trauma were admitted to the hospital of these, 196 (67.1%) male and 96 (39.4%) were female. 104 (35.6%) aged 15-44 and 189 (61.6%) cases lived in villages. The injuries were most common during autumn (106/36.3% of cases). The most common diagnosis was corneal ulcer (ICD-10 code: H16.0) (118/ 40.4% of cases) and in the majority of cases it was unilateral (281/96.2%). The mode of the trauma was not specified in 114 (39%) cases (ICD-10 code: X59). 175 (59.9%) patients had a reasonable recovery. In conclusion, According to spread of traumas and being a well-known problem, preventive measures before occurrence, eye protection against destructive agents by using immunity devices; provisional necessary equipments should be considered in ophthalmology ward of this center.

Key words: Eye Injuries • Corneal Ulcer • Iran

INTRODUCTION

Occupation trauma is a social and economic problem which industrialization in developing countries has increased its prevalence [1]. Eye trauma is a disabling condition and results in a substantial cost for the patients and the society [2]. The condition is one of the common causes of blindness in the world [3]. However, increasing attention has been paid to prevent eye traumas, but still remained the main cause of disabling in the past. Occupation activities, driving, etc. are the main cause of eye traumas [1, 4] and this problem is followed by comprehensive epidemiologic studies, in order to increase the society's knowledge towards this condition and to lessen the eye injuries during working, driving, exercise etc. [5, 6]. In the two recent decades, violent has been considered as one of the main causes of eye trauma, particularly in the developing countries [7, 8].

The eye trauma in working place is one of the main and most common threats, which limits the individuals working capability and cause a different degree of

disability. The eye traumas are generally caused due to lack of care, but preventable. Therefore, in studying the reason of the eye problems, attention to the environmental, organizational and individual factors are necessary [9]. This study was conducted on the context of eye traumas at the ophthalmologic ward of Boo Ali Sina teaching hospital, Sari (Northern Iran) in order to determine the traumas features by the factors such as age, profession, living place and the season of year, the causes and the type of eye condition during 2007 through 2011.

The eye trauma features in the present study are applicable in planning the eye injuries prevention with subsequent avoidance blindness.

MATERIALS AND METHODS

The retrospective descriptive investigation was performed by studying the diagnostic code of the available at the medical records department. About 292 medical records of the patients on the eye traumas during

21 March 2007 to 20 March 2011 were investigated. The data were collected in the checklist having 13 items and analyzed by SPSS 17.0 software using the descriptive statistics analysis.

RESULTS

292 medical records of patients admitted at the ophthalmic ward of Boo-Ali Sina during 2007-2011 were investigated. The study subjects were 96(32.9%) female and 196(67.1%) male. 2(0.7%) 1-4 years, 28(9.6%) 5-14 years, 104(35.6%) 15-44 years, 83(28.4%) 45-64 years and 75(25.7%) 65-and over; 27(9.2%) free job, 58(19.9%) house wife, 28(9.6%) labors, 30(10.3%) students, 31 (10.6%) farmers and in 87 (29.8%) the occupation was not recorded. Also 180(61.6%) lived in village and 112(38.4%) in urban areas. The study showed that 15 (5.1%) the eye injuries were occurred in the spring, 87(29.8%) in the summer, 106(36.3%) in the autumn and 84(28.8%) in the winter season. In most of the cases 281 (96.2%), trauma was unilateral. More of the diagnoses were related to corneal ulcer, coded H16.0 in 118 (40.4%) cases, Traumatic cataract H26.1 in 47 (16.1%), eye laceration S05.3 in 35(12%). Most of the surgical procedures were repair 133(45.5%) and medication in 53 (18.2%).

The external cause of eye injuries in 114(39%) was related to exposure to unspecified factor ICD-10: X59 and ICD-10: Y34, unspecified events with undetermined intent in 24(8.2%) and ICD-10: Y29 contact with the blunt object, undetermined intent 21(7.2%) and the condition at the discharge time, reasonable recovery was recorded in 175 (59.9 %) in Table 1.

DISCUSSION

The obtained data were recorded in medical documentation files and showed that most of the eye trauma frequencies occurred in 196(67.9%) male age range of 15-44 years. 102(34.9%) house wife, 58(19.9%) villagers, 180(61.6%) in the fall, 106(36.3%) with corneal ulcer (ICD-10 code: H16.0), 118 (40.4%) unilateral in 281 (96.2%). The eye traumas were categorized in 5 types as followed: 1. Entering of external objects, 2. Injury by swarming and falling of objects, 3. Burning with the cosmic materials, electric burning, explosion, 4. Replacement of objects during transportation injury by the mechanical tools and 5 Others [10]. Also the reasons of the accident were categorized in 6 groups as follow: lack of protection, the defected tools, lack of caution and

Table 1: Frequency distribution of eye injuries at Boo-Ali Sina during 2007-2011

Characteristic	March 2007-March 2008		March 2008-March 2009		March 2009 -March 2010		March 2010 -March 2011		Sum		
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	
Sex	Female	23	7.9	24	8.2	21	7.2	28	9.6	96	32.9
	Male	37	12.7	40	13.7	57	19.5	62	21.2	196	67.1
	Sum	60	20.6	64	21.9	78	26.7	90	30.8	292	100
Age	1-4 Yr	0	0	1	.35	0	0	1	.35	2	.7
	5-14 Yr	4	1.4	6	2.1	8	2.7	10	3.4	28	9.6
	15-44 Yr	15	5.1	21	7.2	28	9.6	40	13.7	104	35.6
	45-66 Yr	21	7.2	18	6.2	19	6.5	25	8.6	83	28.4
	=65	20	6.9	18	6.2	23	7.9	14	4.8	75	25.7
	Sum	60	20.6	64	22.0	78	26.7	90	30.8	292	100
Job	Farmer	7	2.4	6	2.1	9	3.1	9	3.1	31	10.6
	Student	6	2.1	7	2.4	8	2.7	9	3.1	30	10.3
	House Wife	15	5.1	18	6.2	8	2.7	17	5.8	58	19.9
	Free job	7	2.4	9	3.1	3	1.0	8	2.7	27	9.2
	Labor	9	3.1	10	3.4	1	.35	8	2.7	28	9.6
	Unemployment	4	1.4	2	.7	4	1.4	3	1.1	13	4.4
	Child	1	.35	8	2.7	1	.35	8	2.7	18	6.2
	Unknown	11	3.8	4	1.4	44	15.1	28	9.6	87	29.8
	Sum	60	20.6	64	21.9	78	26.7	90	30.8	292	100
Living Place	City	24	8.2	25	8.6	30	10.3	33	11.3	112	38.4
	Village	36	12.3	39	13.4	48	16.4	57	19.5	180	61.6
	Sum	60	20.6	64	21.9	78	26.7	90	30.8	292	100
Admission Date	Spring	6	2.1	1	.35	5	1.7	3	1.0	15	5.1
	Summer	15	5.1	22	7.5	18	6.2	32	11.0	87	29.8
	Autumn	22	7.5	26	8.9	26	8.9	32	11.0	106	36.3
	Winter	17	5.8	15	5.1	29	9.9	23	7.9	84	28.8
	Sum	60	20.6	64	21.9	78	26.7	90	30.8	292	100

care, lack of using protective devices, improper light, lack of information and pre education training and the other such as, the old age.

In Isfahan (Iran), the eye trauma related to occupation was the most common emergency case. In which the metal pieces were the most common cause of the traumas; among them the corneal trauma with the highest occupation related prevalence [11].

Report [12] showed that, ocular trauma remains as an important cause of avoidable and predominantly mono ocular visual morbidity; and pointed out that 15% of the related injuries are highly preventable by the correct use of safety eye- ware.

CONCLUSION

Considering the prevalence of eye trauma and the known consequent complications, prevention before the occurrence, eye protection against the destructive factors, using of the safe devices; in case of contact with the penetrating trauma, presenting of similar therapeutic protocol by the physicians, even performing of on time therapeutic procedures along with the perfect recording of the data must be considered [13]. Equipment of the ophthalmology ward of the hospital with the advanced instruments in order to render on time and proper medical services is necessary. In order to expand the protective ways, preventing the eye traumas, presenting the fundamental procedures and investigation of the eye conditions etiology could be very helpful. It should be mention that, improper completing of the files, such as demographic features of the patient and data related to the cause of the external object injuries, place and type of accident are the problems of the present study.

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