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EPIDEMIOLOGICAL PATTERN AND CLINICAL PROFILE OF OCULAR INJURIES IN TERTIARY CARE HOSPITAL OF CHHATTISGARH, CENTRAL INDIA.

Ophthalmology

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ABSTRACT

Ocular injury is one of the leading causes of blindness throughout the world. The aim of this study was to know the pattern of ocular injuries and to assess its effect on visual outcome. Hospital based, prospective observational study done over a period of one year. A total of 540 case of ocular injuries were included in study. The incidence of ocular injuries was 1.77%. Blunt injuries comprised the majority 53.8%, perforating injury 14.6%, intraocular FB found in 0.92%. Visual impairment was maximum in the injuries related with domestic activity 5.37% followed by industrial 3.15%; agricultural 3.15%, road traffic accidents 2.96% and assaults 1.85% respectively. The majority of ocular trauma cases in our population was due to non occupational injuries, occurring mainly in male patients.

KEYWORDS

foreign body, Globe injury, hyphaema

INTRODUCTION

No age is immune to trauma, though it is less commonly encountered in extremes of ages. Majority of patients with disastrous effects of trauma fall in the period of their peak active years. It is a major cause of monocular blindness and visual impairment throughout the world, although little is known about its epidemiology or associated visual outcome in developing countries [1] Data collection is the initial step in any epidemiological study. Once a sufficient amount of information is available on how injuries occur (to whom, how, where, when, etc.), prophylactic measures can be planned and implemented[2]. Despite currently available methods of diagnosis and modern surgical technique that have revolutionized its management, eye trauma still remains a major public health problem that deserves considerable attention.

The present study of ocular injuries has been undertaken in area of Chhattisgarh region where multi factorial causes are present leading to various types of ocular injuries. Study is based on hospital documentation which might be of some help in giving relevant information about the various types of ocular hazards according to the data, the study addresses to the following principal questions- many ophthalmological accidents and emergencies are there? When do they present? What are the age and gender of patients? Where do the patients come from? What is the pattern of presenting disease? What are the effects of various factors on the final outcome after management of injuries among study subject? So as to develop preventive strategies for eye injuries particularly for high risk groups and develop even more effective reliable valid management of ocular.

METHODS

All the cases of ocular injuries registered in out patient department ,indoor patients and casualty during a period of one year were included in this study .Income group, mode and type of injury, nature of injury, place of injury, time lapsed between injury first consultation, complications, preventive measures and final visual outcome were recorded. The study design was hospital based prospective observational study. Tools utilizes for study in ocular injuries were rate, ratio, proportion, incidence and prevalence. The catchment area of the Hospital covered the population of Raipur and adjacent district. Some patients in this study were amongst the referrals from other places of the state but predominantly form the region of Chhattisgarh area.

RESULTS

Total patients attending the ophthalmic department during the above period were 30,556 Thus the incidence of ocular injuries comes to about 1.77% of all eye aliments. Total no. of ocular injury cases were 540. Involvement of Right (44.25%) and left eye (50.75%) was almost same, bilateral involvement (5%)were due to a fire cracker explosion of or due to road traffic accidents. It is evident from table no.1 that injuries were commonest in the age group of 20 – 39 years which is the most active period of life. Highest incidence of ocular trauma was in the 20- 29 years age group (28.14%) and lowest incidence in elderly people more than 50 years of age (4.80%). The incidence of ocular injuries in males was 82.96% compared to 17.04% in females thus comprising a male:female ratio of 4.86:1.

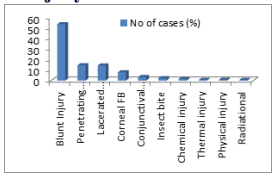
Table 1 Demographic profile:

Age group	Male	Female	Total	Percentage (%)	M/F ratio
0-9	32	13	45	8.34	2.46:1
10-19	71	6	77	14.25	11.83:1
20-29	128	24	152	28.14	5.33:1
30-39	128	20	148	27.4	6.4:1
40-49	53	13	66	12.21	4.07:1
50-59	21	5	26	4.8	4.2:1
60-69	12	6	18	3.33	2:01
70-79	1	4	5	0.92	0.25:1
80-89	0	1	1	0.18	0:01
90-99	2	0	2	0.37	2:00
Total	448	92	540	100	4.86:1

The incidence of Occupational (e.g. Industrial, agriculture) and non-occupational injuries (e.g. domestic injury, road traffic accidents, sports injury, physical violence) in our study were 15.5% and 84.4% respectively.

Amongst all ocular injuries the most common were the blunt injuries (53.8%) (P> 0.05), followed by penetrating eye injuries (14.6%) (P> 0.05). Lacerated wounds in the lids were mostly because of the scuffle and violence Which presented mostly in the form of medico legal cases (P< 0.05).Extra Ocular foreign body was seen in 11.29% of all ocular injuries. (P> 0.05) Figure 1.

Figure:1 Types of ocular injury.



Incidence of various ocular structures involved were lids 29.07%, conjunctive 88.8%, corneal 31.48%, sclera 2.22%, lens 6.66%, iris and ciliary body 11.85% and funds 4.25%. Within 24 hours 228 cases (54.61%) attended the hospital, 114 cases (21.11%) reported in 1-3 days. About (24.28%) of patients first consulted the hospital only after 3 days. (Table 2) 13.73% of cases reported after seven days of injury. This gives an idea of careless attitude of patients and their sense of neglect which would be more evident from some of the case histories

Table 2:- interval between injury and first consultation

Interval between Injury & 1st consultation	No. of cases	Percentage
00 – 05 hours	181	33.51
06 – 12 hours	82	15.18
13 – 24 hours	32	5.92
01 – 03 days	114	21.11
04 – 07 days	57	10.55
08 – 15 days	32	5.92
16 – 30 days	19	3.51
Above 1 month	23	4.3
Total	540	100

Visual impairment of varying degree was observed in 252 cases (46.6%). Amongst them 26 cases (10.32%) were the affected eyes rendered completely blind. Vision with PL -23 cases (9.12%); HM – 17 cases (6.74%), between 1/60 – 6/60 -26 cases (10.32%), between 6/36 – 6/9 -160 cases (63.5%). In our present study the incidence of mechanical injury was more (96.4%) as compared to chemical and thermal injuries which constituted only 3% of ocular injuries. Out of these injuries 14.6% were perforating injuries with 0.92% having retained intraocular foreign body

DISCUSSION

The importance of ocular injuries in causation of blindness has been a subject of discussion since a long time. Its importance increases with the rapidly of industrialization of our country, as also with the emphasis on agriculture, Chhattisgarh area is mainly dependent upon agriculture. The lack of medical facilities and also the ignorance and poverty play a prominent role in the increased incidence of blindness due to ocular injuries. *Vats S et al (2008)*[3] reported an incidence of 2.4% of all ophthalmic patients. The present study shows an incidence of 1.77% of all ophthalmic patients . *Al-Mahdi HS (2017)*[4] *observed* Most injuries occurred in males and those in the age-groups 16–30 years with a mean age of 23 years. The commonest age group for ocular trauma in our series was in the age group of 20-29 years 28.14% and lowest incidence in elderly people more than 50 years of age (4.80%).[5,6] Ocular injury in our study was about 5 times in males (82.96%) as compared to females (17.04%). Incidence of occupational injuries in our study was much less 15.5% in comparison to non-occupational 84.5% (table 2), which is similar to other study.[7] Most of the ocular injuries occurred at home (38.33%) followed by street (30.92%), Workers engaged in Industries, factories and other premises (16.76%).[5]

In western countries road side accidents are more common. *Eagling (1976)*[8] found 31% injuries in road side accidents. In India road side accidents are less[9].In our study it was 9.64%. Due to lack of forest around Raipur the cases of animal bites are not common. In our study there were 2 cases of bear moulding and one case was reported as a dog bite around the eye region. In one case it was the bull's horn which was the causes of ocular injury.

The visual loss was more in cases of vegetable foreign bodies. Moreover there was delay in seeking medical advice. There is a usual temptation in such people to deal these cases themselves and to try household remedies which may add to the risk of infection to injured eye. 5 out of 17 cases of vegetable foreign body developed hypopyon corneal ulcer and irridocyclitis leading to much loss of vision.

CONCLUSION:

The incidence of ocular injuries has got a definite role to play in developing countries where poverty, illiteracy, superstitions and others are additive factors. Raipur located in the region of Chhattishgarh which has witnessed with various aspects of development in the fields of agriculture and industries. Our incidence of cases belonging to urban areas was 365 (67.59%) as compared to 175 (32.41%) cases of rural areas. From the above study it is observed that ocular trauma is one of the major causes of preventable blindness, which affects mostly the younger age group because of their active involvement in outdoor activities like agricultural and industrial. Most of the people from rural areas can not avail the treatment due to their ignorance, poverty and the so called quacks taking this advantage in making the conditions still worse.

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