



## Eye Trauma in Young Children

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### Abstract

A great majority of eye injuries occur in children while playing, quarreling or by accident. In a study of 495 cases below 15 years, male : female ratio was 3:1 whereas 60% cases were from urban area and 40% from rural areas. 55% had closed globe injury and 45% had open globe injury. Chemical injuries were commonest among non-mechanical injuries (64.7%). Thermal injuries were 26.3%. Most injuries occurred in summer season (40%). Out of 46 children who had foreign bodies 66.5 % were extra-ocular and 33.5% were intra-ocular.

**Keywords:** Children; Injuries; Foreign Bodies

### Introduction

Human eye is a very delicate organ and hence even a minor injury can cause much structural and functional damage. However, in children as the tissues are more delicate the effect is more severe and is of grave prognostic concern. Usually the damage is more marked in the beginning and then improves with time [1] particularly when early and effective treatment is taken. However in some cases the initial damage may be very slight or unnoticeable but becomes apparent later. Children of all age group are naughty and playful and hence they are more prone to ocular injuries. The effect may be far reaching in their later life as regards their education, employment and social status. They also sometimes tend to hide the injury for fear of punishment [2].

### Material and Methods

In a study of over 8 years 1600 cases of ocular trauma (injuries) were studied and analyzed. The history regarding the time and nature of circumstances of injury were noted. There were 495 cases of children below the age of 20 years [3]. Older children were examined with slit lamp but in many cases of younger children examination was done with torch and loupe. A few serious cases had

to be examined under general anesthesia. Necessary investigations were carried out and appropriate medical and / or surgical treatment given.

### Observations

Out of 1600 cases 495 (31%) were children which is about 1/3rd of all cases. As expected the incidence in boys was much higher in boys than in girls (75: 25). In boys it was three times greater than in girls. This again is understandable as in India girls are usually quieter and more docile than boys (Table 1). As regards residence more cases were from urban areas (Table 2). Though about 70% population is in villages greater number of injuries were found in rural population. This may be due to lack of awareness and lack of facilities in rural areas. As regards occupation, majority were students (Table 3). In an analysis of structures involved a great majority were in the anterior segment (Table 4). As regards season most injuries occurred in the summer season (Table 5). In mechanical injuries open globe injuries were more than closed globe injuries In non-mechanical injuries. Thermal (burn) injuries were high (Table 6). Extra-ocular foreign bodies were double the number of intra-ocular foreign bodies (Table 7).

In total cases	F : M
M= 1290, F= 310	1 : 4
In 0-20 age group	
M=524, F = 161	1 : 3
In 0-10 age group	1 : 25
M=220, F = 85	
Sex ratio decreases in lower age	

**Table 1:** Sex incidence.

Out of total 495 children		
	Urban	Rural
Number	294	20.1
Percent	59.4	40.6

**Table 2:** Residence Incidence.

Name	Number	Percent
Nil	151	30.6
Student	267	54.0
Farmer	24	04.8
Labourer	20	04.0
House wife	09	01.8
Indust. Work .	07	01.4
Sed. Worker	04	00.1
Miscellaneous	13	02.6
TOTAL	495	

**Table 3:** Occupation.

Structure	Total	Children	%
LIDS	650	192	29.5
CONJUNCT	1211	363	29.9
CORNEA	940	303	32.2
IRIS	543	200	36.8
LENS	450	147	32.6
RETINA	058	016	27.6
TOTAL	3252	1221	37.5

**Table 4:** Structures involved.

Season	Male	Female	Total	%
Rainy	80	51	131	26.5
Summer	116	82	198	40.0
Winter	109	57	166	33.5

**Table 5:** Seasonal incidence.

Closed globe injuries		
Total	In children	%
887	225	28.7
Open globe injuries		
Total	In children	%
537	204	38.0

**Table 6A:** Mechanical injuries.

Name	Total	Children	%
Thermal	67	23	34.3
Chemical	165	29	17.6
Radiation	23	05	27.7

**Table 6B:** Non - mechanical injuries.

Type	Total	Children	%
E.O.FB	147	30	20.4
I.O.FB	65	16	24.6

**Table 7:** Foreign bodies.

### Discussion and Conclusion

As mentioned earlier eye injury in a child is a much serious matter than in an adult or in an elderly [4]. Impairment of vision even in one eye can very adversely affect the further education of a child with grave economic and social consequences. Even if the vision is not affected or regained quickly, the facial disfigurement produced by an eye injury may have very adverse effect in the social life of a student particularly in case of girls. Beyond a certain limit of loss of vision many jobs become unavailable. Wide publicity for early and effective treatment is a very reliable modality to rectify the loss due to eye injury. Even in medical education doctors should be trained for handling eye injuries more effectively.

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