



## VISUAL ACQUITY IN INVOLVEMENT OF CORNEA IN OCULAR TRAUMA-A PROSPECTIVE STUDY

### Ophthalmology

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### ABSTRACT

Corneal injuries are significant contribute to blindness. Cornea is the most anterior structure of eye is exposed to various hazards like airborne debris and blunt trauma. This study was carried out in the department of ophthalmology, PIMS, Umarda, Udaipur, rajasthan. A prospective study was conducted over a period of 2 years among 50 patients Irrespective of sex and age. Most patients suffered from corneal abrasions while the least common were perforating and lacerating injuries. Alkali injuries were more common than acid injuries. Most patients presented within 24 hours and had just epithelial defects. So, the number of patients receiving conservative management was higher than those receiving surgical intervention.

### KEYWORDS

Corneal abrasion, perforating and lacerating injuries

#### INTRODUCTION:

Cornea, as the most anterior structure of the eye, is exposed to various hazards ranging from airborne debris to blunt trauma of sufficient force to disrupt the globe itself. Cornea is also the major refracting surface of the eye, minor changes in its contour result in significant visual problems [1]. Blindness is a major public health problem in most developing countries. Corneal opacification, as a cause of blindness, is second only to cataract in magnitude [2]. Ocular trauma and corneal ulceration are serious public health problems that are occurring in epidemic proportions [3]. One of the most important preventable and avoidable causes of corneal blindness is corneal injuries. The most frequent causes of corneal blindness in at least one eye included keratitis during childhood (36.7%), trauma (28.6%), and keratitis during adulthood (17.7%). Nearly 95% of all corneal blindness was avoidable [4]. Corneal and corneoscleral perforation and subsequent scarring due to ocular trauma may result in a variable amount of blindness [5]. Corneal foreign bodies are the most common form of ophthalmic trauma [6]. Early detection and intervention are the key to trauma management and prevention of further complications [7][8][9]. Treatment included detailed ocular history and examination, most of the patient treated conservatively according to the mode of injury. Ocular trauma is a preventable public health issue that is the leading cause of blindness in children, ophthalmic morbidity, and monocular blindness worldwide. [10]

#### Subjects:

50 patients were included irrespective of age and sex. A prospective study was conducted over a period of 2 years

#### MATERIAL AND METHOD:

##### Inclusion criteria

- Patients presenting with ocular history of corneal injury due to trauma
- Patients of all age groups and either sex.
- Patients evaluated after corneal injury.

##### Exclusion criteria

- Patients who did not give consent for the study.
- Ocular trauma cases where cornea is uninvolved.
- Poor patient compliance not willing to come for follow up.
- Patients who are not available for follow up for a required period of time.
- Patients with head injuries in coma.
- Surgically induced corneal injuries

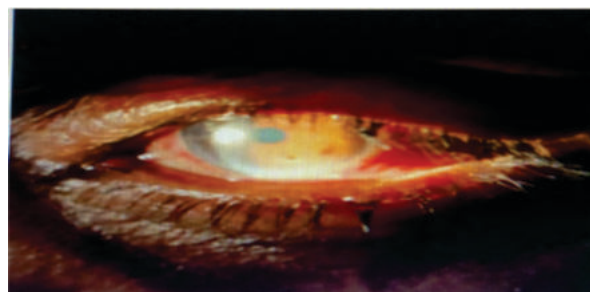
#### METHOD:

Each patient is subjected to detailed ocular history and the etiology of the injury. Examination of anterior segment was done in detail with special emphasis on corneal involvement with the help of a slit lamp biomicroscope after instilling topical anaesthetizing drop

proparacaine 0.5% and the pattern of corneal injury were noted in detail and the management was according to the type of injuries. The sample for microbiological investigations was obtained by corneal scrapping. The cornea was anaesthetized using 0.5% proparacaine solution and scrapping was done using sterile No. 15 Bard Parker blade from the margins of the corneal ulcer.

#### RESULTS:

highest incidence of ocular injuries was found to be in age group of 25-30 yrs. The most common ocular structure involved was the cornea. The most common mode of injury was due to fall followed by metallic foreign body in the eye. Our study showed that good visual acuity in patient coming within 1 day of injury, satisfactory visual acuity in patient visiting after 5 days of corneal injury,



#### CONCLUSION:

Significant improvement in visual acuity of patients receiving treatment recorded at 6 weeks. Better visual prognosis was observed in patients presenting early to the hospital for treatment (less than 1 day) however patients presenting to the hospital within 5 days of injury also showed satisfactory visual prognosis. After treatment, 81% showed clear cornea, 9% had nebular grade opacities, 7% macular grade opacities and 3% had leucomatous.

**Table 1 –time Interval Following Injury**

| TIME INTERVAL       | NO. OF CASES | PERCENTAGE |
|---------------------|--------------|------------|
| Less than 24 hrs.   | 25           | 50%        |
| 1-5 days            | 18           | 40.33%     |
| 5 DAYS-1 MONTH      | 4            | 2.67%      |
| 1 MONTH-12 MONTHS   | 2            | 1.33%      |
| MORE THAN 12 MONTHS | 1            | 0.67%      |
| TOTAL               | 50           | 100        |

**Table-2- Age Distribution Of The Patient**

| AGE GROUP | NO. OF CASES | PERCENTAGE |
|-----------|--------------|------------|
| BIRTH-15  | 8            | 16%        |
| 15-24     | 8            | 16%        |

|       |    |     |
|-------|----|-----|
| 25-34 | 18 | 36% |
| 35-44 | 12 | 24% |
| 45-54 | 2  | 4%  |
| 55-64 | 2  | 4%  |
| TOTAL | 50 | 100 |

**Table3-Visual Acuity In Patients**

| VA IN 6 WEEKS   | NO. OF CASES | PERCENTAGE |
|-----------------|--------------|------------|
| 6/6             | 4            | 8%         |
| 6/9             | 8            | 16%        |
| 6/12            | 10           | 20%        |
| 6/18            | 5            | 10%        |
| 6/24            | 4            | 8%         |
| 6/36            | 4            | 8%         |
| 6/60            | 1            | 2%         |
| 5/60            | 1            | 2%         |
| 4/60            | 1            | 2%         |
| 3/60            | 1            | 2%         |
| 2/60            | 3            | 6%         |
| 1/60            | 2            | 4%         |
| FC 5FT          | 1            | 2%         |
| FC 2FT          | 1            | 2%         |
| FC 2TF          | 1            | 2%         |
| FC HM+PL+PR ACC | 1            | 2%         |
| PL-VE           | 1            | 2%         |
| UA              | 1            | 2%         |
| TOTAL           | 50           | 100%       |

**Table4-Mode Of Injuries In The Patient**

| MODE OF INJURY     | NO. OF CASES | PERCENTAGE |
|--------------------|--------------|------------|
| IRON/METALLIC BODY | 20           | 40%        |
| FALL               | 5            | 10%        |
| ANIMAL INJURY      | 5            | 10%        |
| CHEMICAL           | 10           | 20%        |
| WOODEN STICK       | 5            | 10%        |
| UNKNOWN            | 5            | 10%        |
| TOTAL              | 50           | 100%       |

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