



SCLERO CORNEAL PENETRATING INJURIES – A PROSPECTIVE AND INTERVENTIONAL STUDY

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KEYWORDS : Penetrating, Ocular Trauma, Iris Prolapse, Traumatic Cataract, Subluxation, B-scan, Hyphema, Vitreous Loss, Retinal Detachment .

AIM:

To study the etiology, management and outcome of sclero-corneal penetrating injuries.

OBJECTIVES:

- To study the different agents causing penetrating ocular injury.
- Analyse the outcome of penetrating injuries after treatment.
- To study the factors associated with poor final visual outcome following penetrating ocular injuries if any.

MATERIAS AND METHODS

This is a hospital based prospective, interventional study done in the Department of Ophthalmology at Dr. R.S.P.R. Government Regional Eye Hospital, Andhra Medical College, Visakhapatnam from January - 2016 to June – 2018 which included 50 patients who admitted with penetrating ocular trauma.

INCLUSION CRITERIA:

- 1.All patients who presented to Ophthalmology OPD with penetrating eye injuries involving sclera or cornea or both.
- 2. All age groups.
- 3. Minimum follow up period of 6 months.

EXCLUSION CRITERIA:

- 1. Follow up of less than 6 months.
- 2. Prior ocular trauma or surgery.
- This is a hospital based prospective interventional study, done in dept. of Ophthalmology at Dr.RSPR Government Regional Eye Hospital, Andhra Medical College, Visakhapatnam from January 2016- June 2017.
- 50 patients who fulfilled the inclusion criteria are included in the study after taking informed return consent .

TREATMENT:

Treatment was done based on whether the wound was self-sealing or not. In self-sealing injury with normal anterior chamber without any uveal prolapse, medical line of management was done, except for paediatric cases where the wound was sutured. Intraoperatively the size of the wound measured with Castroviejo callipers. In the case of leaking wounds, primary repair was done under local or general anaesthesia. In case of iris prolapse, the iris was repositioned or abscised depending upon the viability of the tissue. In cases of traumatic cataract, cataract extraction and IOL implantation was done as a secondary procedure in most of the cases. The lens removal was done along with primary suturing in cases of subluxation or anterior dislocation. Anterior vitrectomy was done in cases where the vitreous prolapsed through the wound.

- In cases where the ciliary zone involved, Wysolone (Prednisolone) tablets were given orally according to the body weight of the patient (1mg/kg bwt) and tapered over weeks.
- All cases were followed for minimum of 6 months.
- During each follow up, each patient BCVA, IOP was recorded and complete anterior and posterior segment examination was performed. If the posterior segment view is obscured, B-Scan ultrasonography was performed to see the posterior segment details.
- Complications noted during follow up examinations were dealt accordingly.
- Final best corrected visual acuity was recorded at the end of six

months.

- Final best corrected visual acuity $\geq 6/60$ was considered as better visual outcome and $< 6/60$ was considered as poor visual outcome.
- Statistical analysis was done with SPSS software version 17. The chi-square test was used to analyse the data statistically. P value of 0.05 or less was considered statistically significant.

RESULTS:

- The mean age is 30.94 ± 18.51 years. The range of distribution is from 4 – 74 years. Majority of the male (78%). Male: female ratio was 3.54: 1.
- Most of the injuries occurred at home accounting for 48% followed by work place (30%).
- Majority of the penetrating injuries involved cornea only (54%) followed by both cornea and sclera (32%).
- Zone I was involved in 54% of total penetrating ocular injuries followed by zone II (28%).
- 40% of the patients presented to the hospital more than one day after injury while 38% presented to the hospital between 7 and 24hours. Only 22% of the patients presented to the hospital with in 6hours of injury.
- Majority of the patients (42%) had a visual acuity ranging between LP to 1/60 at the time of presentation.
- 34% of the patients attained a visual acuity $\geq 6/12$ by the time of final follow up. 26% of the patients had no perception of light. This was due to phthisical eyes and eviscerated eyes.
- Majority of the patients (64%) had iris prolapse through the wound at the time of presentation followed by traumatic cataract (34%) and hyphema (32%).
- The wound size was between 6-10 mm in 50% of cases while it is ≤ 5 mm in 34% of cases.

In this study initial visual acuity $< 6/60$, wound size > 5 mm, involvement of zone 3, presence of RAPD, hyphema, vitreous loss, vitreous haemorrhage, retinal detachment had statistically significant association with poor final visual outcome.