



“TIME” AS PROGNOSTIC FACTOR IN TRAUMATIC CATARACT. IS IT ALL WE NEED TO KNOW?

Ophthalmology

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ABSTRACT

Objective – the purpose of study was to determine whether time act as significant factor alone in managing patients of traumatic cataract.

Design – Prospective observational study

Methods–A total of 50 patients were enrolled in study. Detailed eye examination and systemic examination was done, findings were recorded. After recording the data, outcome was measured in terms of visual acuity gained.

Results – Out of 50 patients, 30 presented to the hospital within 1 week (group 1), 7 patients between 1-4weeks(group 2) and 13 patients after 4 weeks(group 3). Among group 1, 18 patients acquire final visual acuity of >20/200 whereas this figure in group 2 and group 3 was 3 and 9 respectively. The mean visual acuity was compared among 3 groups and it was found to be not significant ($p=0.53$).

Conclusion– We concluded that while dealing with a case of traumatic cataract, not only time plays an important prognostic factor alone but also injuries to other ocular structure apart from lens.

KEYWORDS

traumatic cataract, time, visual outcome.

INTRODUCTION-

Traumatic cataract formation is frequently associated with ocular trauma. Both blunt injury and penetrating injury can affect the lens and result in cataract formation which can significantly decrease the vision. Injury can be sustained virtually anywhere, usual places being home and workplace. Individuals of any age group can be affected. So it is prudent to have a better understanding of factors which can help us in maximizing the visual outcome. This study aims at knowing whether early management or delayed management can affect the final visual outcome.

METHOD-

It was a Prospective observational study. After necessary approval from Ethical committee the study was conducted over a period of 18 months at central India. The cases were enrolled only after explaining the whole procedure and obtaining the necessary consent for participation. The inclusion criteria and exclusion criteria are as follows

Inclusion Criteria

- Cases willing for participation.
- Cases with penetrating or blunt injury which lead to traumatic cataract formation.

Exclusion Criteria

- All others types of cataract like those caused by electric shock, radiation exposure were not included.
- Patients who had history of previous ocular pathology, ocular surgery or congenital malformation.
- Patients not consenting for research.
- Patients with poor compliance to treatment.

History was recorded with reference to the following points-

- Demographic profile
- Symptomatology
- Mode of injury
- Activity while injury
- Occupation
- Use of protective measures
- Time interval between injury and presentation to hospital.

The visual acuity was assessed on Snellen's chart in a semi dark room and converted into logMAR scale for comparison and evaluation. For

patients with severe visual loss the visual acuity was recorded in terms of Finger Counting (FC), Hand Movement appreciation (HM) and perception of light (PL).

All the patients enrolled in the study were subjected to detailed meticulous examination of both anterior segment and posterior segment. The anterior segment and adnexa were examined with torch and lamp followed by slit lamp biomicroscopy. Examination of pupillary reaction was done and presence of RAPD or APD or traumatic mydriasis was noted. Fundus examination was done with indirect ophthalmoscope and scleral indentation in patients with blunt injury without hyphema. Periphery was examined for retinal dialysis, retinal tear, commotio retinae. The findings were documented on standard proforma. In presence of opaque media posterior segment was evaluated by B-Scan.

In cases with suspected intraocular/intraorbital foreign body, additional imaging modalities were used such as X-Ray and CT Scan.

According to BETTS classification patients were categorized as open globe injury and closed globe injury^[1]. Tonometry was done by Applanation tonometer in cases of blunt injury. After examination and diagnosis, patients were subjected for routine blood and urine investigations. In cases of polytrauma cardiovascular system, respiratory system, central nervous system and per abdomen were examined. Physician and anaesthetist reference were done for fitness to undergo surgery and surgery was done in presence of anaesthetist.

Preoperative keratometry was done by autorefractometer and IOL power was calculated by A-Scan. In those cases of corneal injury where mires were not formed keratometric value of fellow eye was taken and IOL power was calculated. Primary or secondary implantation was done. Associated complications were noted.

The data thus collected was recorded on predesigned proforma and managed on a spread sheet (Excel Sheet). Appropriate statistical test were used to analyse the results. “Kruskal Wallis” test was used to determine the significance of changes between two groups. The “Chi Square”, “T” test and “ANOVA” test were used to compare the categorical data. Level of significance in statistical test was 0.05.

RESULT-

After analysing the data of 50 patients, it was found that 30 patients

reported to the hospital within 1 week, 7 patients reported between 1-4 weeks, 13 patients reported after 4 weeks.

Table 1- Duration Between Time Of Injury And Intervention.

Duration	<1 week	1-4 weeks	>4 weeks
Total no of patients	30	7	13

Most of the open globe injury patients reported within one week as open globe injury patients were more apprehensive as compared to closed group injury. The difference between both injuries was significant ($p=0.00021$).

Table2- Type Of Injury And Time Of Presentation

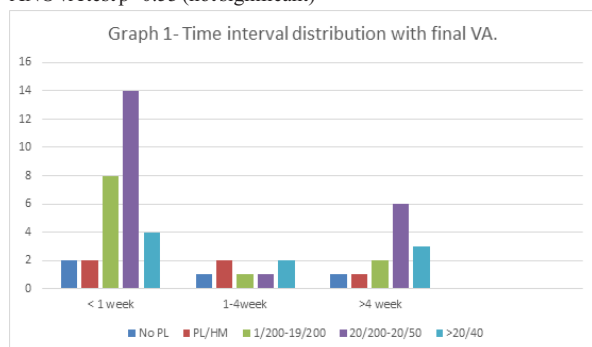
Type of injury	< 1 week	1-4 week	>4 week
Open globe	26	5	3
Closed globe	4	2	10

Chi square test “p” value 0.00021.

The final visual outcome in patients were compared with all other group i.e. within 1 week, 1-4 week and after 4 week. The final visual acuity were converted into logMAR for comparison. The mean visual acuity in group 1 (<1week) was 1.04 and in group 2(1-4week) and group 3(>4week) are 1.4 and 0.9 respectively. The difference between groups was not statistically significant.

	No PL	PL/HM	1/200-19/200	20/200-20/50	>20/40	Total
< 1 week	2	2	8	14	4	30
1-4week	1	2	1	1	2	7
>4 week	1	1	2	6	3	13

ANOVA test $p=0.53$ (not significant)



DISCUSSION-

while comparing time as predictive factor we found results similar to our study by Srivastava et al (2) . According to them on comparing the effect of time interval between injury and intervention on the final visual outcome there was no significant effect seen. Similar results were reported by Mariya et al (3), they found that the time interval between injury and cataract surgery showed no effect on final visual outcome.

But study conducted by Shah et al (4) showed improved visual outcome results from intervention between 2-30 days.

CONCLUSION

After analysing the data we came to conclusion that while dealing with a case of traumatic cataract, the final visual outcome solely does not depend upon time between intervention and injury but also on associated injuries to ocular structures apart from lens.

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