



A PROSPECTIVE STUDY OF TRAUMATIC CATARACTS

Ophthalmology

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ABSTRACT

Management of traumatic cataract especially the timing of the surgery has always been a bone of contention. The aim of this study is to study the visual prognosis following penetrating traumatic cataract depending on the time of intervention and epidemiology. This prospective study included 104 patients. Most cases (48.1%) presented within the first 15 days. 72 had a best corrected visual acuity of 6/6 to 6/12 following surgery. Only 5 patients had a visual acuity of 6/48 or less after being intervened 2 weeks after injury. The timing of the intervention for traumatic cataract did not have a significant bearing on the visual outcome.

KEYWORDS

Traumatic Cataract, Intervention, Prognosis

INTRODUCTION

Ocular trauma can vary with the nature of the agent causing injury as well as the extent and site of injury. The effect of ocular trauma can produce several well-known clinical entities which bring misery to the patients and pose a challenge to the treating surgeon. Traumatic cataract is a common problem which we encounter in our day to day practice. It is the most common cause of unilateral cataract in young individuals (Tomkins O,2011). The prognosis and visual outcome is dependent upon several factors including timely medical management and surgical intervention, concurrent damage to other parts of the eye ball particularly posterior segment, meticulous preoperative evaluation, postoperative care and long term follow up. It is a well-known fact that traumatic cataract is likely to affect younger individuals and is more often unocular. The restoration of good vision in the affected eye and maintenance of binocularity will contribute a lot to the well-being of the patient. The present study will attempt to find out whether the time interval between the intervention and onset of trauma plays a significant role in providing good visual outcome in patients with traumatic cataract. It is earnestly hoped that this present study will contribute a small mite in tackling the menacing problem of ocular injuries and traumatic cataracts.

AIM:

To study the visual prognosis following penetrating traumatic cataract depending on the time of intervention and epidemiology

Methodology

This prospective study was carried out for a period of one year. A total number of hundred and four patients were studied with a mean follow up period of three months. The study was cleared by the local ethics committee. Informed consent was obtained from all the participants.

Inclusion criteria: Patients with definite history of trauma having slit lamp evidence of corneal tear with / without the presence of intraocular foreign body and had evidence of traumatic cataract and who had a follow up of at least 3 months.

Exclusion criteria: Patients with preexisting ocular co-morbidity due to other diseases, and injuries associated with endophthalmitis were excluded. The study also excluded chemical, radiational, electrical, and thermal injuries.

The exact circumstances leading to injury and the object causing injury were recorded. A detailed history was obtained which included the time of intervention following the trauma. Any significant past ocular and medical history was also noted. A complete eye examination was done which included fundus examination with indirect ophthalmoscopy. X – Ray orbit to detect any orbital wall fracture and intra ocular foreign body was done. B scan was done if the posterior

segment was not visualized. 'A scan' was performed prior to cataract extraction. After pre op evaluation patients were admitted in the hospital to be taken up for surgery. . Following this cataract surgery was done. The patients were seen on post-operative day one, day 30 and day 90. At each visit the patient was assessed for best corrected visual acuity, detailed slit lamp examination, fundus evaluation and ocular tension with non-contact tonometry.

RESULTS:

A total 104 subjects were included. 72 were male and 32 were women. 45 patients (43.3%) were between 21- 40 years. 36 patients (34.6%) were between 10- 20 years and 23 patients (22.1%) were above 40 years. 60 patients (57.7%) had right eye involvement and the remaining had left eye which was involved. The most common mode of injury was due to thorn in 36 patients (34.6%), followed by stick in 31 patients (29.8%). The remaining injuries were due to metal wires, pencils and glass.

Table: 1 Presentation

	Frequency	Percent
1 to 15 days	50	48.1
16 to 30 days	18	17.3
1 to 6 months	17	16.3
More than 6 months	19	18.3
Total	104	100

As we can see in Table No. 1 most of the cases presented within the first 15 days. Out of these 25% came within 24 hours of injury. We noted that 87 patients (83.7%) had total cataract and the remaining had localized cataract.

Table: 2 Post-op vision at 3 months

Presentation	3 months post-op vision				Total
	6/6-6/12	6/18-6/36	6/48-6/60	6/60 or less	
1-15 days	35	9		6	50
16-30 days	11	5	1	1	18
1-6 months	13	2	1	1	17
More than 6 months	13	5	1		19
Total	72	21	3	8	104

As seen in Table 2, in our study following cataract surgery, 72 had a best corrected visual acuity of 6/6 to 6/12, 21 had a vision of 6/18 to 6/36, 3 had a vision between 6/48 to 6/60 and 8 had less than 6/60. 35 out of 50 patients [72%] who presented within first 15 days had a visual acuity of 6/6 – 6/12 and only 6 patients [12%] had a visual acuity of 6/60 or less and out of these 3 of them had developed amblyopia and the remaining 2 had posterior vitreous detachment with vitreous opacities with a leucomatous scar following corneal repair in the visual

axis and one had a PCIOL partially in the anterior vitreous face. We also see that only 5 patients had a visual acuity of 6/48 or less after being intervened 2 weeks after injury. The cause of visual impairment was noted to be due to the presence of central macular scar of more than 5mm size and all 5 of them had a pre existing posterior capsular rupture with vitreous disturbance in the pre operative period. Out of the 19 cases who presented to us after 6 months only one had a visual acuity in the range of 6/48 to 6/60 and this was due to optic atrophy.

Discussion: This prospective study of traumatic cataract consisted of 104 cases of penetrating injury. The study was carried out to see if there was any change in the final visual outcome depending on the time at intervention and to understand the age and gender distribution of penetrating trauma, modes of management and common post operative complications. In our study 69.2% of the patients were males as they were more prone to trauma because of increased exposure to out door and physical activities. These findings were similar to those seen in the study conducted by (Sharma AK,2016) wherein he found that the male to female ratio was 3:1. Most common modalities of injuries were stick and thorn. Other agents causing injury in the present study were pencils 6.73% and wires 19.23%. In another study it was found that most injuries (54.7%) resulted from a stick or bows and arrows (Krishnamachary M,1997). One more study had shown fire crackers and bow and arrow as the most common agent (Daljit Singh,1983). In our study, we found that only 5 patients had a visual acuity of 6/48 or less when they were intervened after 2 weeks of injury. The cause of visual impairment was noted to be due to the presence of central macular scar of more than 5mm size and all 5 of them had a pre existing posterior capsular rupture with vitreous disturbance in the pre operative period. Out of the 19 cases who presented to us after 6 months only one had a visual acuity in the range of 6/48 to 6/60 and this was due to optic atrophy. Hence the time at intervention did not really determine the visual outcome. However in our study we found that all the cases with posterior capsular rupture and vitreous disturbance developed cystoid macular oedema in the immediate post operative period. These patients were treated with topical steroids for a period of 1 month. In only 4 out of 19 patients there was not much improvement in the vision at the end of 5 months because of atrophic changes in the macula. In another study of 10 patients it was found that all except one who had a retinal detachment had a visual acuity of 6/24 or better and concluded that a short delay in the treatment of traumatic cataract did not appear to have an adverse effect on the visual prognosis (Insler MS,1989). This was also the finding in our study though the number of patients in our study is much higher. In another study it was found that performing a primary posterior capsulectomy with anterior vitrectomy improved the final visual outcome in cases of traumatic cataract (Mehul A Shah,2014).

CONCLUSION:

The timing of the intervention for traumatic cataract did not have a significant bearing on the visual outcome.

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