International Journal of Current Advanced Research
ISSN: O: 2319-6475, ISSN: P: 2319-6505, Impact Factor: 6.614
Available Online at www.journalijcar.org
Volume 7; Issue 9(D); September 2018; Page No. 15459-15461
DOI: http://dx.doi.org/10.24327/ijcar.2018.15461.2822

Research Article

INTRAOCULAR LENS IMPLANTATION IN TRAUMATIC CATARACT---A CLINICAL STUDY

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A R T I C L E I N F O

Article History:

Received 10th June, 2018
Received in revised form 2nd July, 2018
Accepted 26th August, 2018
Published online 28th September, 2018

Key words:

Blunt trauma, hyphaema,
Posterior capsular

A B S T R A C T

Purpose: To investigate visual prognosis following intraocular lens implantation in traumatic cataract. **Methods:** A total number of 40 patients were selected from the outdoor as well indoor patients attending Regional Institute of Ophthalmology, GMCH, Gauhati. Detailed history, ocular examinations and investigations were performed. Appropriate surgical intervention was done and the visual outcome was evaluated on follow ups. **Results:** Among 40 cases majority of the cases were aged less than 45 years (90%) males (70%).Maximum number of cases presented with blunt injury 32(80%)cases and 8 (20%)cases with penetrating injury. IOL was implanted in 39 cases (97. 5%).Postop visual acuity of 6/9 or better was gained in 20(50%)cases and <6/18 in 7 (17.5%) cases. **Conclusion:** The primary purpose of the study is not only IOL implantation but also the management of post-operative period.

INTRODUCTION

Trauma is a common cause of monocular blindness in the developed world, although few studies have assessed the issue of trauma in rural areas.[1] The development of cataract is a commonestknown complication following blunt or penetrating trauma to the eye.Trauma, in addition to causing lens opacity, can also lead to a change in the position of the lens, which increases ocular morbidity.[2]

Traumatic cataracts may occur as either early or late sequel of the injury. The management of such lenticular trauma depends upon numerous factors, including visual acuity, intraocular pressure, intraocular inflammation, associated anterior segment trauma, and ability to visualize posterior segment damage, require urgent intervention to prevent further ocular complications.

In general, decreased visual acuity, lens-induced glaucoma or inflammation or poor visualization of on injured posterior segment are indications for surgical intervention. Improved variety of intraocular lenses and recent technical advances in surgical procedures have made satisfactory intraocular lens implantation in traumatic cataract possible. But careful management of post-operative period and preoperative status of the ocular tissue also plays a great role in the functional rehabilitation of the patient. With this view, the present study was undertaken in order to find out visual prognosis following intraocular lens implantation in traumatic cataract and the factors affecting the ultimate visual outcome.

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MATERIALS AND METHOD

A prospective study including 40 patients who had presented with blunt or penetrating injury to eye to Regional institute of Ophthalmology during the period July 2016 to March 2017 were included in our study. Permission for conducting the study was obtained from the Institutional Ethics Committee.

Data regarding age, sex, type of trauma, time interval between occurrence of trauma and its presentation, was collected. Examination included visual acuity, anterior segment evaluation with particular reference to the type of cataract, associated features of trauma in the cornea, iris and anterior chamber. A thorough posterior segment evaluation was done. The events that ensued during the surgery the type of surgery done, type of intra-ocular lens placed and whether or not an intraoperative complication occurred, and how it was managed were noted. The post op vision and complications were recorded. Result was statistically analysed.

Inclusion criteria

Patients included in the study were divided into two groups:

Group A: Following blunt trauma
Group B: Following penetrating /perforating injury.

Exclusion criteria

1. Patients with no perception of light
2. Gross corneal and posterior segment pathology

RESULTS AND OBSERVATION

Of the 40 patients, 28(70%) were male and 12 (30%) females. The age of the patients ranged between 6-55. [Table 1a,1b]

The most common history of trauma was at work place (35%) followed by childhood trauma in 32.5 % cases. [Table 2]

Table 1a

Sex	No. of cases	Percentage
Male	28	70%
Female	12	30%

Table 1b

Age in years	No. of Cases	Percentage
5-15	13	32.5%
16-25	8	20%
26-35	10	25%
36-45	5	12.5%
45-55	4	10%
Total	40	100%

Table 2

Causes of Trauma	No. of cases	Percentage
Trauma in childhood	13	32.5%
Sports and home	9	22.5%
At work	14	35.0%
Accident	4	10.0%
TOTAL	40	100%

The mode of injury was blunt in 32(80%) patients whereas in 8 (20%) was the penetrating type. [Table 3] Of these, all the cases of blunt trauma had IOL implantation, and 8 cases with penetrating trauma were planned for IOL implantation but in one case implantation was abandoned due to intraoperative vitreous loss. The most common type of IOL implanted was PCIOL i.e. in 80% cases [Table 4]

Table 3

Group	No. of Cases	Percentage
Blunt injury	32	80%
Perforating injury	8	20%
Total	40%	100%

Table 4

Type of implantation	No. of lenses	Percentage
Posterior chamber	32	80%
Anterior chamber	6	15%
Scleral fixation	2	5%

In our study we found that the most common intraoperative complication was Posterior capsule rent in 6 (15%)cases, [Table 5] post-operative complication being anterior uveitis 20 (50%) cases [Table 6]

Table 5

Intraoperative Complications	No.of cases	Percentage
Grade I hyphaema	4	10%
Vitreous loss	2	5%
PC rupture	6	15%
Resident lens matter	2	5%
Iris prolapse	4	10%
Zonular tear	2	5%
Excessive pigment dispersion	1	2.5%

Table 6

Delayed Post Op Complications	No. of eyes	Percentage
Pigment dispersion	18	45%
Posterior capsular opacification	3	7.5%
Partial Iris implant synechiae	2	5%
Cystoid macular edema	1	2.5%
Secondary glaucoma	1	2.5%

The visual acuity at presentation was found to be the perception of light in 50% of cases while it was found to be less than 3/60 in 7.5%of cases [Table 7]. Post-operative visual acuity improved to >6/9 in 20(71.8%) cases. [Table 8] The most important cause for decreased post-operative visual acuity was due to corneal opacity.

Table 7

Preop va	No of cases	Percentage
3/60	3	7.5%
FC	4	10%
HM	13	32.5%
PL	20	50%
TOTAL	40	100%

Table 8

Visual acuity	Blunt trauma	Perforating trauma
6/9 or better	19(59.3%)	1(12.5%)
6/12-6/18	10(31.2%)	3(37.5%)
6/24-6/60	2(6.25%)	1(12.5%)
NR	1(3.1%)	2(25%)

DISCUSSION

The management of traumatic cataract has been a subject of controversy among Ophthalmic surgeons. The surgical technique, timing of surgery and complications have also been considered to be significant factors in determining the final visual outcome In a study done by Ashish *et al*[3], out of 48 patients79% patients were males while 50% were less than 15 years of age similar demographic results were seen in our study.

In our study 80% cases presented with blunt ocular trauma and this in correlation with some studies.[2,4] In the present study most, common modality of treatment was by PCIOL implantation, this in accordance with study by Kalyanpad PN and Shinde CA.[5]

Rupal *et al*[6] showed that the incidence of posterior capsular opacification was more in patients who underwent surgery for a traumatic cataract but in our study, we found that pigment dispersion was more commonly observed.

Jagannath *et al*[7] observed that pre-operative visual acuity was hand movement in 50% cases whereas we found that 50% cases presented with visual acuity of perception of light. Post-operative visual acuity improved to 6/9 or better in 71.8% cases. Similar results have been observed in few previous studies.[2,8]

CONCLUSION

Implantation of an IOL in traumatic cataract is awell established procedure for visual rehabilitation.Good visual outcome after surgery for traumatic cataract was found in most cases.The cases with poor visual outcome were those which had comorbidities like corneal involvement.

Diminition of vision following trauma was the commonest mode of presentation in this study.Both blunt as well as penetration ocular injuries were involved.Stress should therefore be put on ocular safety measures and awareness of the society against ocular injuries occurring at work place and at home because prevention is better than cure.Also the importance of early reporting and adequate followup to be emphasized to the masses.

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How to cite this article:

Bharati Deori Boruah *et al*.2018, Intraocular Lens Implantation in Traumatic Cataract---A Clinical Study. *International Journal of Current Advanced Research,* 07(9), pp. 15459-15461. DOI: http://dx.doi.org/10.24327/ijcar.2018.15461.2822

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