



Original Article

Clinical profile of patients with crystalline lens or intraocular lens (IOL) dislocation due to any cause

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Abstract

Objective: To study the clinical profile of patients with crystalline lens or intraocular lens (IOL) dislocation due to any cause in north Indian population.

Methods: This was a prospective interventional study conducted in a tertiary care hospital in north India. All patients planned for Pars Plana Vitrectomy for subluxated/dislocated lens/IOL, in the Department of Ophthalmology of the institute were included in the study. A total 32 patients were included in the study.

Results: Normal IOP was among majority of patients (81.3%) and raised was in 18.8% patients. Corneal edema was the most common pre-operative complication (15.6%) followed by vitreous hemorrhage (12.5%) and inflammation (6.3%). Raised IOP was in 25% patients in postoperative and corneal decompensation was in 18.8% patients. However, inflammation was in 15.6% patients in postoperative and Cystoid macular edema was in 9.4% patients.

Conclusion: Subjects managed by pars planavitrectomy and retrieval of dislocated crystalline lens/IOL with IOL repositioning or IOL exchange had satisfactory recovery without significant complications.

Keywords: Clinical profile, Crystalline lens, Intraocular lens.

Introduction

With the increasing popularity of phacoemulsification as a method of choice for cataract surgery, the incidence of complications such as inadvertent posterior capsule tear, nuclear fragments, and intraocular lens (IOL) loss into the vitreous cavity has increased greatly (Ahmed et al, 2010).

These complications are directly related to the surgeon's expertise and tend to increase in specific cases that represent major challenges. These cases include inadequate zonular support

(pseudoexfoliation, trauma, and previous vitrectomy), mature and hypermature cataracts, high axial myopia, insufficient mydriasis, patient movements during the perioperative period, among others (Awan, 2009; Emery et al, 1978).

The overall incidence of nucleus drop into the vitreous in one study was found to be 0.8%. The incidence for the experienced surgeon was 0.3% and for those learning it was 1.23% (Monshizadeh and Haimovici, 1999).

Other studies reported that the incidence varies from 0.3%-2.7% in western countries to 0.3%-1.3% in India (Tommila and Immonen, 1995).

The aim of this study was clinical profile of patients with crystalline lens or intraocular lens (IOL) dislocation due to any cause in north Indian population.

Material and Methods

This was a prospective interventional study conducted in a tertiary care hospital in north India. The study was approved by the Ethical Committee of the Institute. The consent was taken from each participant before including in the study. A total 32 patients were included in the study.

All patients planned for Pars Plana Vitrectomy for subluxated/dislocated lens/IOL, in the Department of Ophthalmology of the institute were included in the study.

Methods

Patient was painted with 10% povidone-iodine and draped. 5% povidone-iodine was instilled into the conjunctival sac. Topical anaesthesia (2% Lignocaine jelly) was used for co-operative patients, peribulbar anaesthesia (2% Lignocaine, 0.2% Bupivacaine at 3:2 ratio) for un-cooperative patients. Created 3 ports for infusion line, light pipe and vitrectomy cutter. 20G vitrectomy cutter was used. Sclero-corneal tunnel was made or previously constructed tunnel was used in cases of previously done SICS. Removal of residual cortical matter done at the lens plane. Complete pars planavitrectomy with removal of posterior hyaloids was done. Triamcinolone acetonide was used to stain the posterior vitreous phase. Nucleus fragment was brought into the anterior chamber. In cases of dropped IOL, after releasing the adhesions around the IOL, was grasped with intra-vitreous forceps and delivered into the anterior chamber. All remaining cortical matter was aspirated. 360 degree retinal peripheral examination was done to rule out any retinal breaks. If, found, sealed with endolaser. If, there was adequate capsular support (>180 degrees).In

case of inadequate capsular support, pupil was constricted with pilocarpine, a peripheral iridectomy was made with the vitreous cutter and ACIOL placed in the anterior chamber. Viscoelastic was removed from anterior chamber using irrigation-aspiration. Finally, air was injected into anterior chamber.

Analysis

Descriptive statistics are presented in the form of frequencies and percentages.

Results

Normal IOP was among majority of patients (81.3%) and raised was in 18.8% patients (Table-1).

Corneal edema was the most common pre-operative complication (15.6%) followed by Vitreous hemorrhage (12.5%) and inflammation (6.3%) (Table-2).

Raised IOP was in 25% patients in postoperative and corneal decompensation was in 18.8% patients. However, inflammation was in 15.6% patients in postoperative and Cystoid macular edema was in 9.4% patients (Table-3).

Table-1: The pre-op IOP of the patients

Pre-op IOP	No. (n=32)	%
Normal IOP (10-21 mmHg)	26	81.3
Raised IOP (>21 mm Hg)	6	18.8

Table-2: The pre-operative complications of the patients

Pre-operative complications	No. (n=32)	%
Corneal edema	5	15.6
Inflammation	2	6.3
Vitreous hemorrhage	4	12.5

Table-3: Post-operative complications of all the patients

Post-operative complications	No. (n=32)	%
Corneal decompensation	6	18.8
Raised IOP	8	25.0
Cystoid macular edema	3	9.4
Foveal thinning	2	6.3
Retinal detachment	1	3.1
Inflammation	5	15.6

Discussion

Posterior dislocation of crystalline lens or artificial IOL following complicated cataract surgery or trauma is a serious complication.

Vitreous loss increases the risk for postoperative retinal detachment, cystoids macular oedema, inflammation and elevated intraocular pressure (Ah-Fat et al, 1998).

Retained crystalline lens or artificial IOL further elevates the risk for postoperative inflammation, secondary glaucoma and corneal decompensation. Subsequent posterior segment surgery to retrieve the dropped lens generally improves the clinical outcome (Lu et al, 1999).

Zafar et al (2012) reported that complications included raised intraocular pressure in 6 eyes (12.5%) and retinal detachment in 2 eyes (4.1%), corneal oedema and decompensation in 3 eyes (6.25%) and cystoids macular oedema in 4 cases (8.33%) out of 48 cases.

Huang et al (2004) also found that of all of the eyes, 39% had significant complications affecting postoperative visual outcomes, including retinal detachment, cystoid macular edema, vitreous hemorrhage and glaucoma. In conclusion, there were no significant differences in visual outcomes and complications between the traumatic and iatrogenic arms of the study.

Review of literature indicates a lack of consensus whether the timing of pars planavitrectomy effects on final visual outcome.

Conclusion

Subjects managed by pars planavitrectomy and retrieval of dislocated crystalline lens/IOL with IOL repositioning or IOL exchange had satisfactory recovery without significant complications.

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