

Complications of Cataract Surgery in Patients with Pseudoexfoliation

Dr. Vikram B Bhalke¹, Dr. Kshitija Panditrao², Dr. R.R. Naik³

¹JR-3, PG Student, ²JR-3, PG Student, ³Prof. and HOD, Department of ophthalmology, PDVVVF's Medical college and hospital, opp. Milk dairy, vadgaongupta, Viladghat Ahmednagar-414111 Maharashtra, India

*Corresponding author

Dr. Vikram B Bhalke

Email: vikrambhalke@gmail.com

Abstract: The aim is to study the intraoperative and post-operative complications of cataract surgery in patients with pseudoexfoliation. A prospective interventional method used to study 52 patients of pseudoexfoliation. After informed consent was signed and BCVA, participants underwent slit lamp biomicroscopy, Goldmann applanation tonometry, gonioscopy, ophthalmoscopy, automated refraction and Humphrey (central 24-2 threshold) visual field. All the patients were operated by Phacoemulsification by the same surgeon. Patients were examined postoperative day 1 and after one month. Complications like intraoperative rigid pupil in 28 (87.5%) patients, zonular dehiscence and vitreous loss; both observed in 1 (2%) patient, corneal edema in 12 (66.67%) patients, and early post op inflammation in 6 (33.33%) patients. Most common complication was intraoperative rigid pupil followed by zonular dehiscence and vitreous loss. Most common post operative complication was corneal edema followed by early post op inflammation.

Keywords: pseudoexfoliation, lamp biomicroscopy, rigid pupil, Pseudo exfoliation syndrome (PXS)

INTRODUCTION

Pseudo exfoliation syndrome (PXS) is an age-related systemic microfibrilopathy that targets mainly ocular tissues[1]. There occurs gradual deposition of fibrillary residue from lens and iris pigment epithelium mainly on the lens capsule, ciliary body, zonules, and corneal endothelium. The diagnosis is done clinically on slit lamp examination by observation of white fibrillary residue on pupillary margin and pigmentation of trabecular meshwork[2]. Pseudo exfoliation (PEX) is a risk factor for the development of secondary glaucoma which can affect the outcomes of cataract surgery. Deposition of extracellular material also results in the alteration of tissues of the anterior segment, making cataract surgery potentially challenging. Surgeons must be aware of the possible intraoperative and postoperative issues in managing cataract in the patients with pseudoexfoliation. Most significant risk factors being zonular weakness and poor pupillary dilatation.

AIM

To study the intraoperative and post-operative complications of cataract surgery in patients with pseudoexfoliation.

MATERIALS AND METHODS

Type of the study

It is a prospective interventional study carried out in 52 patients.

Inclusion criteria

Pseudoexfoliative patients (clinically diagnosed) admitted for cataract surgery for visually significant cataract.

Exclusion criteria

Patients with history of uveitis, miotic use, traumatic cataract, complicated cataract, high myopia and previous eye surgery. Patients were evaluated using slit lamp examination, gonioscopy, perimetry tonometry and fundus examination – preoperatively. Examination for subtle lens subluxation, zonular dialysis or iridophacodonesis, anterior chamber depth was done. All the patients were operated by Phacoemulsification by the same surgeon. Intraoperatively following points were looked for:

- Dropped lens material
- Higher risk of posterior capsular loss
- Shallow anterior chamber
- Small pupil
- Vitreous prolapsed

Postoperatively patient was examined on the day 1 of surgery and after one month. Following complications were looked for:

- Acute IOP elevation
- Capsular contraction
- Corneal edema
- Cystoid macular edema
- Glaucoma
- IOL deposits

- IOL dislocation
- Posterior capsular opacification
- Posterior synechiae
- Prolonged anterior chamber reaction



Fig. 1: Pseudoexfoliative material deposited on the anterior capsule

RESULT

Patients were observed preoperatively, intraoperatively and postoperatively for the possible complications and following observations were made –

Table 1: Complications observed preoperatively, intraoperatively and postoperatively

	Total number of patients	Patients positive for complications
Preoperative pseudoexfoliation material deposition on anterior capsule of lens	52	52
Intra-op rigid pupil	52	28
Intra-op zonular dehiscence	52	1
Intra-op vitreous loss	52	1
Early(1 week) postop anterior chamber reaction	52	6
Corneal oedema in 1 st week	52	12

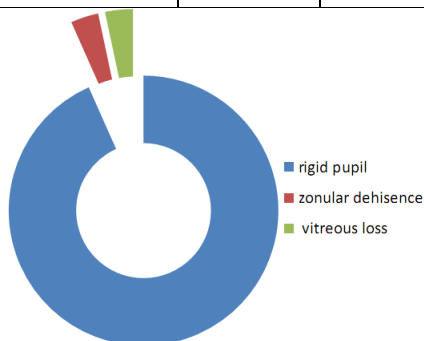


Fig. 2: Intra-op complications

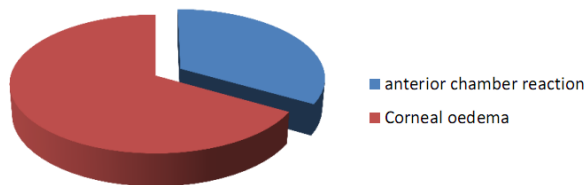


Fig. 3: Post-op complications

Rigid pupil in 28 (87.5%) patients, zonular dehiscence and vitreous loss; both observed in 1 (2%) patient. Post-operative complication was corneal oedema which occurred in 12 (66.67%) patients followed by early post op inflammation in 6 (33.33%) patients.

CONCLUSION

Most common complication was intraoperative rigid pupil. Other intra-op complications observed were zonular dehiscence and vitreous loss; both observed in 1 patient. Most common post operative complication was corneal oedema followed by early post op inflammation. The risks associated with cataract surgery in the PXF patient can be minimized with the proper preoperative, intraoperative and postoperative care. The use of specialized adjunctive devices such as highly cohesive viscoelastics, pupillary expansion devices and capsular tension devices has increased the margin of safety in these potentially complex cataract surgeries [3, 4].

REFERENCES

1. Elhawy E, Kamthan G, Dong CQ, Danias J; Pseudoexfoliation syndrome, a systemic disorder with ocular manifestations. *Human genomics*, 2012; 6(1):1.
2. Ritch R, Schlötzer-Schrehardt U; Exfoliation syndrome. *Survey of ophthalmology*, 2001; 45(4):265-315.
3. Bayraktar Ş, Altan T, Küçüksümer Y, Yılmaz ÖF; Capsular tension ring implantation after capsulorhexis in phacoemulsification of cataracts associated with pseudoexfoliation syndrome: intraoperative complications and early postoperative findings. *Journal of Cataract & Refractive Surgery*, 2001; 27(10):1620-1628.
4. Hasanee K, Ahmed II; Capsular tension rings: update on endocapsular support devices. *Ophthalmology clinics of north America*, 2006; 19(4):507-519.