

# Implications of pseudoexfoliation syndrome in cataract surgery and its complications

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## Abstract

**Background:** Pseudoexfoliation is a systemic syndrome of multifactorial origin affecting elderly people by increasing the risk of cataract and secondary glaucoma development. It is an age-related systemic disease having ocular manifestations. It is characterized by deposition of whitish fluffy amyloid like proteinaceous material in eye. Common sites of its deposition are the anterior chamber and its angle, trabecular meshwork, anterior surface of iris, anterior capsule of lens and sometimes cornea. Deposition of PES material on ciliary zonules leads to their weakening and instability. This can lead to subluxation or dislocation of lens causing phacodonesis. Patients with PES have significantly higher risk of variety of complications during cataract surgery which include small pupil, zonular dehiscence, posterior capsular rent. Despite modern techniques and technologies for cataract surgery, pseudoexfoliation syndrome represents a challenge for surgeons. Using currently available surgical devices, the risk of intraoperative complications may be much reduced, allowing the surgeon to handle difficult cases with larger margin of safety. This review analyzes the methodologic approach to the patient with PES the aim of providing useful advices to limit the risks of intraoperative and postoperative complications.

**Key Word:** pseudoexfoliation syndrome.

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Received Date: 28/11/2019 Revised Date: 11/01/2020 Accepted Date: 05/02/2020

DOI: <https://doi.org/10.26611/10091336>

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Accessed Date:  
09 March 2020

## INTRODUCTION

### Aims and Objective:

- To evaluate prevalence of Pseudoexfoliation Syndrome and its ocular manifestations
- Early identification of risk factors and prevention of surgical complications

## MATERIALS AND METHOD:

- Study Area: Dept of Ophthalmology, in a Tertiary care Government Hospital, Maharashtra.
- Study Population: All cases of cataract getting admitted for cataract surgery

- Sample size: A total of 50 cases with PES of Cataract surgeries
- Duration of study: Duration of study is 12 months from the date of sanction of study from ethical committee.
- Study Design: Prospective analysis of cases
- Statistical Analysis: Will be done using appropriate statistical tests.

### Inclusion Criteria:

- Both male and female patients are included
- Age between 55 years to 85 yrs
- Patients willing to participate and willing to give informed consent

### Exclusion Criteria:

- Age < 55 years or > 85 years
- History of Previous Intraocular surgery, Traumatic Cataract, Congenital Cataract, and Complicated Cataract.

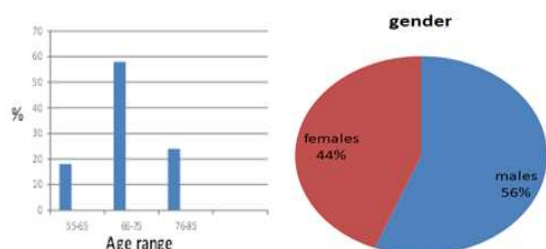
Patients will be selected according to the inclusion and exclusion criteria. After taking informed consent and reassuring patients regarding expertise and confidentiality Detailed history will be taken regarding demographic factors, occupation, previous medical, surgical and ocular history. Examination will done including general physical

**How to cite this article:** Mohit Vishwakarma, M B Dongre. Implications of pseudoexfoliation syndrome in cataract surgery and its complications. *MedPulse International Journal of Ophthalmology*. March 2020; 13(3): 78-80. <https://www.medpulse.in/Ophthalmology/>

examination. This cross-sectional descriptive study was carried out on 50 eyes of 50 patients with cataract and PXE who underwent SICS or phacoemulsification surgery in a tertiary care hospital. There preoperative and intraoperative and postoperative complications with visual outcome were documented and analyzed.

### OBSERVATIONS AND RESULTS

Fifty eyes of 50 patients with PXE who underwent cataract surgery by SICS or phacoemulsification technique were included in this study to evaluate the perioperative and post-operative complication. The ages of the 50 patients in this study was between 55 and 85 years. Out of these 8 (18%) were in 55-65 years age group, 28 (58%) patients were in 66-75 years age group and 14(24%) patients in were in 76-85 years age group. 28 (56%) were male and 22 (44%) were female.



Pre-operative features showed that a high percentage of eyes had a rigid pupil. Eight cases had poor pupillary dilatation while 15 had moderate dilatation. None of the pupils dilated beyond 7mm.

**Table 1: Pupillary dilation**

<6mm	67%
>6mm	38%

None of the eyes showed frank subluxation of lens. All patients underwent cataract surgery using SICS technique or phacoemulsification. Surgical complications are listed in Table 1. Thirteen cases (25%) required sphincterotomy to facilitate capsulorhexis and nucleus delivery. Four eyes (7.69%) had vitreous loss due to difficulty in surgical manoeuvres. All four patients with vitreous loss were given anterior chamber lenses after doing anterior vitrectomy.

**Table 2: Intraoperative complications**

Porly dilating pupil	30
Post capsular ruture	4
Zonular degeneration	2
Votreous loss	1
Post opt hyphaema	3
Decentered iol	3
Retained lens matter	6
Iridodialysis	1
Lens dislocation	0
<b>TOTAL</b>	<b>50</b>

Patients were followed on the post-operative day 1, day 7, day 14 and at monthly intervals for 3 months to evaluate intraocular pressure spikes, increased intraocular inflammation, decentration/tilt of intraocular lens and corneal decompensation. Post-operative hazy cornea was seen in 12 (23%) cases. Six cases (11.5%) had significant intraocular inflammation. The IOP was measured both pre-operatively and postoperatively. We did not find any pressure spikes in any patient. Final visual acuity was recorded after 6 weeks of surgery [Table 2].

**Table 3: Post-OP visual acuity**

	Number
6/6-6/12	16
6/18- 6/36	30
6/60 or LESS	4

### CONCLUSION

Inadequate pupil dilatation, and zonular weakness are the common difficulties associated with small incision or Phacoemulsification cataract surgery in eyes with pseudoexfoliation syndrome. Careful surgical evaluation and communication with the patient regarding increased surgical risks should be given in patients with Pseudoexfoliation syndrome. Early diagnosis, detailed ocular examination, beforehand preparedness for and management of intraoperative surgical complications and postoperative outcome associated with pseudoexfoliation improves surgical outcomes.

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Source of Support: None Declared  
Conflict of Interest: None Declared

