



STUDY THE VISUAL OUTCOME AFTER CATARACT SURGERY IN PATIENTS WITH PSEUDOEXFOLIATION SYNDROME.

Ophthalmology

Dr. Vimal J. Vyas Professor. Department Of Ophthalmology, P.D.U. Govt. Medical College, Rajkot

Dr. Sushilkumar G. Chaudhari* Resident Doctor, Department Of Ophthalmology, P.D.U. Govt. Medical College, Rajkot.
*Corresponding Author

ABSTRACT

Aim: To study the visual outcome in Pseudoexfoliation Syndrome patients after cataract surgery.

Materials and methods: We have done study of visual outcome after cataract surgery in patients with Pseudoexfoliation syndrome in 50 patients.

Result & analysis: A total 50 patients 26 were males and 24 were females, most common age of presentation is between 51 to 60 years. After cataract surgery 36% had visual acuity <6/60, 32% had between 6/60-6/36, 32% had 6/24-6/18 after 1st post-operative day. 28% had between 6/60-6/36, 48% had 6/24-6/18 and 16% had visual acuity 6/12-6/9 after 1st week. 36% had 6/24-6/18 and 54% had 6/12-6/9. Most common Intraoperative complication are retained cortical matter and difficulty in nucleus delivery and postoperative complications are postoperative acute rise of IOP and corneal edema.

Conclusion: After cataract surgery, good visual outcome can be achieved by appropriate preoperative, intraoperative and postoperative care.

KEYWORDS

Pseudoexfoliation Syndrome, Cataract surgery, Intraocular pressure.

INTRODUCTION: Pseudoexfoliation is an age-related degeneration of the basement membrane characterized by deposition of granular or fibrillar dandruff-like elastin material on ocular structures like the corneal endothelium, iris, anterior capsule of the lens, zonules, anterior vitreous, conjunctiva, and blood vessels.

It is a systemic disease involving other organs such as the myocardium, kidneys, gall bladder, and dura as well; however, ocular manifestations are most obvious and associated with many complications. The most important diagnostic sign of PEX is whitish-grey flaky material on the pupillary-border of the iris and the anterior surface of lens. The lens frequently demonstrates a "three-ring sign" on the anterior lens capsule which consists of a relatively homogenous central zone and a granular cloudy peripheral zone with a clear zone in between. Pigment loss from the iris sphincter region and its deposition on anterior chamber structures support the diagnosis. For detecting these signs, a careful clinical examination using dilated slit-lamp bio-microscopy and additionally undilated Gonioscopy for angle structure are done.

Pseudoexfoliation is frequently associated with open angle glaucoma and poor pupillary dilatation. Cataract surgery in eyes with pseudoexfoliation has high incidence of intra operative complications like posterior capsular rupture, zonular dialysis and vitreous loss during surgery. Patients with pseudoexfoliation are reported with delayed spontaneous dislocation or subluxation of intraocular lens after uncomplicated cataract surgery.

The difficulties experienced by the surgeon in terms of assessing the extent of cupping, combined with shallow AC, rigid pupil, zonular dehiscence/subluxation determine the intra-operative complications and post-operative visual outcome. The small pupillary diameter and zonular fragility are presumed to be the most important risk factor for capsular rupture and vitreous loss during cataract surgery. Zonular instability increases the risk of lens subluxation, zonular dialysis or vitreous loss up to ten times. Use of appropriate surgical steps like iris hooks for stretch pupilloplasty, CTR (Capsular Tension Ring) for zonular dehiscence combined with anterior vitrectomy wherever necessary facilitate the surgeon to manage intra-operative complications effectively with reasonable good visual outcome.

After surgery, the pseudoexfoliation patients should undergo thorough and frequent examinations for early detection of an increase of IOP, inflammation and IOL dislocation. Administering acetylzolamide immediately after surgery and using topical glaucoma mediators in the postoperative period can effectively control the rise of IOP. In addition, topical use of steroids and NSAIDs is important to control inflammation which tends to be higher in these patients. It should be kept in mind that the pseudoexfoliative process will continue even after the surgery thus the patient should be monitored for possible development of glaucoma, capsular phimosis syndrome or

decentration of IOL.

AIM & OBJECTIVES OF THE STUDY: To Study the visual outcome after Cataract Surgery in Patients with Pseudoexfoliation Syndrome.

OBJECTIVES OF THE STUDY: To study the visual outcome in Pseudoexfoliation Syndrome patients after cataract surgery.

To study types of complications encountered during and after cataract surgery in a patient of Pseudoexfoliation Syndrome.

To observe the secondary rise of IOP after Cataract Surgery.

MATERIALS AND METHODS:

We have done study of 50 patients with Pseudoexfoliation syndrome. Patient to be chosen according to the inclusion and exclusion criteria. The patient has to be reviewed for visual acuity and IOP after cataract surgery on 1st post-operative day, 1st and 6th post-operative week.

INCLUSION CRITERIA

- All the patients diagnosed to have cataract with pseudo exfoliation based on slit lamp examination before and after dilatation.
- Patients of pseudoexfoliation with cataract belonging to either sex.
- Patient presenting with all types of cataract

EXCLUSION CRITERIA

- Traumatic cataract.
- Developmental cataract.
- Patient with secondary cataract complicated anterior Uveitis.
- Previous ocular trauma manifested with dislocation of cataract lens.
- Patient with uncontrolled HTN and DM.
- Patient with previous intraocular surgery.

- No. of Cases: 50
- Informed valid written consent will be obtained from the patients.
- Patient to be chosen according to the inclusion and exclusion criteria

Preoperative evaluation done with

- Detailed history
- family history
- similar history in fellow eye
- Ocular examination with Uncorrected visual acuity
- Slit lamp examination
- Gonioscopy
- IOP measurement
- Keratometry, A scan, IOL power calculation
- Fundus examination

- Surgical method followed.

The patient has to be reviewed for visual acuity and IOP on 1st post-operative day, 1st post-operative week, 6th post-operative week.

RESULT & ANALYSIS: We have done study of visual outcome after cataract surgery in patients with Pseudoexfoliation syndrome in 50 patients. Out of total 50 patients 26 (52%) patients in this study were males and 24 (48%) were females.

Table 1: Distribution of patients according to sex

Age of patients (years)	Males	Females
41-50	6	8
51-60	11	7
61-70	9	7
>70	0	2

Chart 1: Visual Acuity Before Cataract Surgery

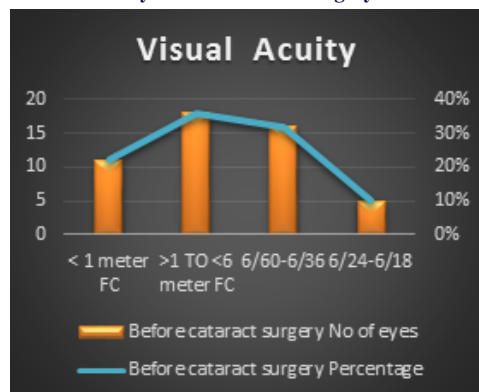


Table 2 shows visual acuity after 1st post-operative day.

Table 2: Visual Acuity After Cataract surgery

Visual acuity	1 st Postoperative Day	
	No of eyes	Percentage
<6/60	18	36 %
6/60-6/36	16	32 %
6/24-6/18	16	32 %
6/12-6/9	0	00 %
6/6	0	00 %

Table 3 shows visual acuity after 1st week of cataract surgery.

Table 3: Visual Acuity After 1st Postoperative week

Visual acuity	1 st Postoperative week	
	No of eyes	Percentage
<6/60	04	08
6/60-6/36	14	28
6/24-6/18	24	48
6/12-6/9	08	16
6/6	00	00

Chart 2: Visual Acuity After 6th Postoperative week

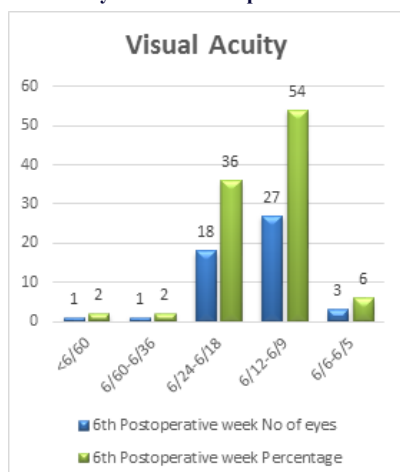


Table 4: Intraoperative complication

Intraoperative Complication	No. Of Eyes	Percentage
Zonular Dialysis	2	4 %
Difficulty in nucleus delivery	5	10 %
Accidental iridodialysis	3	6 %
PCR	4	8 %
Vitreous loss	4	8 %
Retained cortical matter	6	12 %
Decentered IOL	2	4 %
Pupillary Atony	3	6%

Table 5: Postoperative complication

Post-operative complication	No. of Eyes	Percentage
Posterior synechiae	2	6 %
Corneal oedema	10	24 %
Severe AC reaction	8	16 %
Postoperative acute rise of IOP	15	30 %
Decentered IOL	2	4 %
Retained Cortical Matter	6	12 %

DISCUSSION AND INTERPRETATION:

TABLE 6: COMPARISON OF AGE DISTRIBUTION IN DIFFERENT STUDIES

Name of the study	Mean Age (in years)
Mohamed A. et. Al	60.53
Bojan Kovac et. Al	79.70
Praveen V et. Al	61.79
Anmol et. Al	67.95
Current study	55.95

TABLE 7: COMPARISON OF SEX DISTRIBUTION IN DIFFERENT STUDIES

Name of the study	Males (%)	Females (%)
Mohamed A. et. Al	53.4	46.6
Bojan Kovac et. Al	45.8	54.2
Praveen V et. Al	57	43
Anmol et. Al	76	24
Current study	52	48

Chart 3: Comparison of Preoperative Visual Acuity in Different Studies

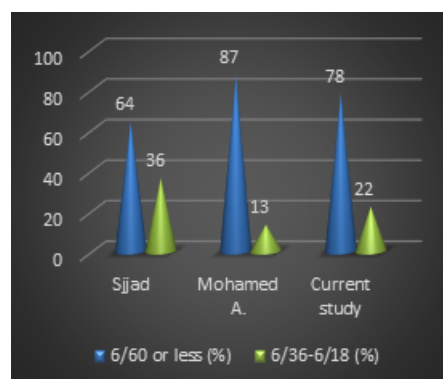
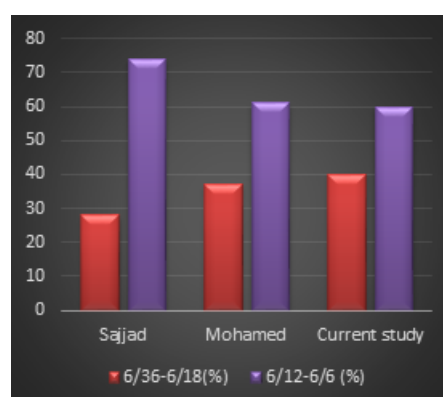


Chart 4: Comparison of Post-Operative Visual in Different Studies (At 6th Week)



• Intraoperative complications in different studies

In study of **Jawad** most common Intraoperative complication are Vitreous prolapse 10.5 %, PCR 9%, Damage to sphincter pupillae 8%, Retained lens material 6% Zonular dialysis 4% present.

In study of **Surekha Bangal** Problems encountered during surgery were small nondilating pupil (26%), zonular dialysis (2%), posterior capsular rupture (6%), vitreous loss (4%), residual lens matter (10%), iridodialysis (4%), hyphema (2%).

In study of **Praveen**, the commonest intra-operative complication was Zonular dialysis in 10% & Posterior capsular rupture in 2%.

In **current study**, most common Intraoperative complication are retained cortical matter (12 %), difficulty in nucleus delivery (10 %), PCR (8 %), Vitreous loss (8 %), Pupillary Atony (6 %), Accidental iridodialysis (6 %).

• Postoperative complications in different studies

In study of **Surekha Bangal** post-operative complications were irregular pupil due to sphincterotomy (8%), significant anterior chamber reaction (30%), and exudative membrane formation (6%), corneal oedema with striate keratopathy (32%), iris pigment dispersion (16%), raised intraocular pressure (6%), posterior synechiae (2%) and intraocular lens decentration (2%).

In **k. Satish study**, the most common immediate post-operative complication was anterior chamber reaction followed by acute IOP elevation and corneal edema.

In **Current study**, most common postoperative complications are postoperative acute rise of IOP (30 %) and corneal edema (24 %), Severe AC reaction (16 %).

CONCLUSION: Pseudoexfoliation is more common in males than females. In patients with pseudoexfoliation syndrome after cataract surgery, good visual outcome can be achieved by appropriate preoperative, intraoperative and postoperative care.

REFERENCES:

1. Albert & Jakobiec's Principles and Practice of Ophthalmology. 3rd edition
2. Stallard's Eye Surgery. M.J. Roper-Hall. (7th edition)
3. Al-Mujaini A, Wali UK. Visual outcome following extracapsular cataract extraction in mature cataracts with pseudoexfoliation syndrome: A retrospective study. Oman J Ophthalmol 2013;6:23-6
4. DELHI JOURNAL OF OPHTHALMOLOGY • MARCH 2013 DOI: 10.7869/djo.2012.66
5. Cataract Surgery in Patients with Pseudoexfoliation Abid Naseem, Salim Khan, Muhammad Naeem Khan, Shad Muhammad Pak J Ophthalmol 2007, Vol. 23 No. 3
6. Abbin George Manalil, P. Mishra, S. Manavalan, V. Sridevi, M. Ramya, V. S. Nagalakshmi, Parth Rana, Neha H. "Cataract Surgery in Pseudoexfoliation Syndrome". Journal of Evolution of Medical and Dental Sciences 2014; Vol. 3, Issue 54, October 20; Page: 12403-12410, DOI: 10.14260/jemds/2014/3642
7. Allingham RR, Loftsdottir M, Gottfredsdottir MS, et al. Pseudoexfoliation syndrome in Icelandic families. Br J Ophthalmol. 2001; 85: 702-7.
8. K. Satish, D. N. Prakash, Nirati Srivastava, Ambika Acharya, Raheela Afshan, Serine Johnson, Amudha A, Aylette D'silva. "Management of Intraoperative Complications and Visual Outcome in Patients having Cataract with Pseudoexfoliation Syndrome". Journal of Evolution of Medical and Dental Sciences 2014; Vol. 3, Issue 38, August 25; Page: 9829-9836, DOI: 10.14260/jemds/2014/3273
9. Sufi et al.: Outcome of Phacoemulsification in patients with and without Pseudoexfoliation syndrome in Kashmir. BMC Ophthalmology 2012 12:113.
10. Dr Praveen V Association between Anterior Chamber Depth and Outcome of Cataract Surgery in Eyes with Pseudo Exfoliation Syndrome. IOSR Journal of Dental and Medical Sciences (IOSR-JDMS) e-ISSN: 2279-0853, p-ISSN: 2279-0861. Volume 15, Issue 5 Ver. IV (May. 2016), PP 111-114
11. Satish Desai, Vinita Rao. "Visual Outcome after Cataract Surgery in Complicated Cataract". Journal of Evolution of Medical and Dental Sciences 2014; Vol. 3, Issue 34, August 11; Page: 9142-9156, DOI: 10.14260/jemds/2014/3180
12. Damji, Karim F. Progress in understanding pseudoexfoliation syndrome and pseudoexfoliation-associated glaucoma". Canadian Journal of Ophthalmology 42 (5): 657-658
13. Jawad M, Nadeem AU, Khan Au, Aftab M. Complications of cataract surgery in patients with pseudoexfoliation syndrome. J Ayub Med coll Abbottabad 2009; 21:33-6.
14. Arvind H, Raju P, Paul PG, Baskaran M, Ramesh SV, George RJ, et al. Pseudo. exfoliation in south India. BrJophthalmol 2003; 87; 1321-3.
15. Sufi AR, Mufti AA, Nazir N, Qureshi T, Ramzan R. Prevalence of pseudoexfoliation syndrome in patients scheduled for cataract surgery in eye camps in Kashmir. J Clin Ophthalmol Res 2014;2:137-9.
16. Manishi A. Desai, MD and Richard K. Lee, MD, PhD The Medical and Surgical Management of Pseudoexfoliation Glaucoma Int Ophthalmol Clin. 2008 ; 48(4): 95-113. doi:10.1097/IIO.0b013e318187e902.
17. Surekha bangal Outcome of Cataract Surgery in Patients with Pseudoexfoliation DOI: http://dx.doi.org/10.7869/djo.2012.66
18. Bojan Kovac, The prevalence of pseudoexfoliation syndrome and possible systemic associations in patients scheduled for cataract surgery at the Military Medical Academy in Belgrade DOI: 10.2298/VSP121208018K