



A CLINICAL STUDY OF POST-OPERATIVE COMPLICATIONS FOLLOWING MANUAL SMALL INCISION CATARACT SURGERY

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ABSTRACT **AIM:** To study the incidence of post-operative complications following cataract surgery. **METHODS:** This is a hospital based prospective study comprised of 100 eyes of 100 cataract patients above 45 years without any systemic illness. This study was conducted in Dept. Of Ophthalmology, MIMS hospital, Nellimarla from March 2021-March 2022. All patients are selected by simple random sampling and followed up for a period of 6 months. All patients were analysed according to the history, age, sex and thorough clinical examination was done. Manual small incision cataract surgery was done for all patients and they are examined on first post op day, 7 post op day, after 1 month, after 3 months and after 6 months. **RESULTS:** In our study 56 % are male and 44% female. Maximum number of patients were in age group of 55–65 years. Intraoperative complications PC rent noticed in 3 case due to zonular dehiscence in pex patients. On first post-op day striate keratitis 7%, corneal edema 3% seen more in pseudo-exfoliation cases. After one week persistent uveitis was common in 3% cases, after 3 month IOL related complications are common and after 6 month posterior capsule opacification was seen 5% cases followed by pseudophakic bullous keratopathy 2% and endophthalmitis very rare seen in 1 case. After doing refraction and correction at the end of six weeks 75% cases got best corrected visual acuity between 6/9– 6/6. **CONCLUSION:** The overall complications in patients without any systemic illness were very less. The incidence of complications are more in cases of pseudo-exfoliation.

KEYWORDS : Cataract surgery; striate keratitis; Posterior capsule opacification; Pseudo-exfoliation; Best corrected visual acuity.

INTRODUCTION

Cataract is the commonest and most important cause of visual impairment worldwide. Small incision cataract surgery with intraocular lens implantation is the commonest intraocular surgery performed by ophthalmologists. Advances in operative microscope and microsurgical instruments have made cataract surgery very safe and effective in restoring vision.

WHO/NPCB (National Programme for Control of Blindness) survey has shown that there is a backlog of over 22 million blind eyes (12 million blind people) in India, and 80.1% of these are blind due to cataract. The annual incidence of cataract blindness is about 3.8 million. Whereas only 5 million cataract surgeries are performed annually in our country. In developing countries manual small incision cataract surgery is a good choice for treating cataract cases. Though the steps are very well understood and the results are generally good, certain systemic and local ophthalmic conditions need extra attention and improved surgical technique to achieve uneventful surgery and good post-operative vision. So that complications can be prevented and treated in good manner.

There are numerous ocular conditions that may lead to post-operative complications inspite not having any systemic illness (eg: corneal diseases like Fuch's endothelial dystrophy, entropion, ectropion, pseudo exfoliation) Surgeon should be aware of the factors that make surgery more difficult, or that may affect the outcome. This awareness will help surgeon to make decisions about the surgical technique as well as to give proper pre and postoperative care to provide complete visual rehabilitation to cataract patients.

Aims and objectives -

1. To study the complications encountered with cataract surgery in patients with no prior systemic illnesses.
2. To know the incidence of various complications.
3. To study how to prevent and treat complications following manual small incision cataract surgery.

Materials and methods -

In this study an attempt was made to study the postoperative complications following small incision cataract surgery, so that their early detection and management is possible to give complete visual rehabilitation to cataract patients. The preoperative condition and postoperative difficulties were correlated and analyzed.

The study was conducted in MIMS hospital, Nellimarla. Study period was from March 2021-March 2022.

This prospective study comprised of 100 eyes of 100 cataract patients above 45 years without any systemic illness who underwent cataract surgery. All patients are selected by simple random sampling and followed up for a period of 6 months.

Inclusion criteria – All cataract patients above 45 years posted for small incision cataract surgery and IOL implantation and giving written informed consent for the evaluation and needful.

Exclusion Criteria –

1. Patients with congenital, Developmental, complicated and traumatic cataract.
2. Patients pre-existing glaucoma, corneal opacity, uveitis, posterior segment pathology, systemic diseases like hypertension, diabetes with retinopathy, ischemic heart diseases and bronchial asthma.
3. Patients who didn't give consent for the study.

Results

This prospective study comprised of 100 eyes of 100 cataract patients above 45 years without any systemic illness who underwent cataract surgery in MIMS Hospital, Nellimarla. The information collected regarding all the selected cases were recorded in a Master Chart.

TABLE 1: SEX INCIDENCE

SEX	NO. OF CASES	PERCENTAGE
FEMALE	44	44%
MALE	56	56%
TOTAL	100	100%

TABLE 2: AGE DISTRIBUTION

AGE GROUP	NO. OF CASES	PERCENTAGE
45-54	07	07%
55-64	45	45%
65-74	36	36%
75-85	12	12%
TOTAL	100	100%

The above tubular column shows that distribution of cataract in different age groups.

Maximum number of patients (45%) were in the age group of 55 – 65 years.

TABLE 3: IMMEDIATE POST-OP COMPLICATIONS (POD-1)

COMPLICATIONS	NO. OF CASES	PERCENTAGE
Striate keratitis	07	07%
Corneal edema	03	03%
Iris prolapse	01	01%
Wound gap	02	02%
Hyphema	02	02%
Residual cortex	02	02%
Shallow anterior chamber	02	02%
Post op uveitis	04	04%
Toxic anterior shock syndrome	01	01%
Total no.of cases(100)	24	24%

Out of 100 patients surgery was uneventful in 97 patients only in 3 patients PC rent noted on table. So ACIOL implantation was done for these patients out of 3, two patients have non dilating pupil due to pseudo exfoliation syndrome and one due to subluxation. Complications were seen in 24 cases on the first post-operative day. Striate keratitis was the most common complications seen in 7% cases followed by post-operative uveitis in 4% cases and corneal edema in 3% cases.

TABLE 4: POST-OP COMPLICATIONS AT THE END OF 1st WEEK

COMPLICATIONS	NO. OF CASES	PERCENTAGE
Corneal edema	2	2%
Iris prolapse	2	2%
Shallow AC	1	1%
Persistent uveitis	3	3%
Total no. of cases(100)	8	8%

Visual acuity	UCVA no. of cases	UCVA%	BCVA no. of cases	BCVA %
6/6 – 6/9	20	20%	71%	71%
6/12 – 6/18	66	66%	24%	24%
6/24 –6/36	9	9%	3%	3%
6/36 -6/60	5	5%	2%	

At the end of first week complications were seen in 8 cases. There is reduction in number of striae keratitis cases after one week. Persistent uveitis usually seen in PEX cases and after ACIOL implantation and iris prolapse seen in 2% cases due to self-induced trauma.

TABLE 5: POST-OP COMPLICATIONS AT THE END OF 1 MONTH

COMPLICATIONS	NO. OF CASES	PERCENTAGE
CME	1	1%
Endophthalmitis	1	1%
Optic capture	2	2%
Persistent uveitis	3	3%
Total no. of cases (100)	7	7%

At the end of one month out of 100 cases complications noticed in 7 cases in which persistent uveitis and optic capture was common. Loose suture are noticed in SICS+ACIOL cases. Cystoid macular edema was noticed in one patient as vitreous loss during surgery and iris prolapse was risk factors for CME. Endophthalmitis is noticed in one case due to not using properly antibiotic steroid topical drops and patient not turned for follow up, vitrectomy was done for that patient and systemic IV antibiotics were started. Patient responded to treatment well. Refraction and correction was given after 6 wks as astigmatism changes are stable after six weeks.

Table -7: Distribution of patients with postoperative uncorrected and best corrected visual acuity at the end of 6 weeks

Visual acuity	UCVA no. of cases	UCVA%	BCVA no. of cases	BCVA %
6/6 – 6/9	20	20%	71%	71%
6/12 – 6/18	66	66%	24%	24%
6/24 –6/36	9	9%	3%	3%
6/36 -6/60	5	5%	2%	

Out of the 100 cases post-operative uncorrected visual acuity 66 % cases had visual acuity between 6/12- 6/18 and 20% had between 6/6- 6/9 . After doing refraction and correction at the end of six weeks 75% cases got best corrected visual acuity between 6/6 –6/9

Table -8: Post-operative complications at the end of 3 months

Complications	No. of cases	percentage
Decentered IOL	4	4.2%
Optic capture	2	2.17%
PBK	1	1%
PCO	1	1%
Total no. of cases(92)	8	

At the end of 3 months out of 100 cases 8 patients were lost for follow up. IOL related complications were noticed at the end of 3 months like decentered IOL, optic capture and posterior capsule opacification.

Table no 9: Post-operative complications after 6 months

Complications	No. of cases	percentage
PCO	4	4.4%
PBK	1	0.89%
Total no. of case (88)	3	

At the end of 6 months out of 92 patients 4 patients were lost in follow up. Out of remaining 88 cases 5 patients develop posterior capsule opacification ,YAG capsulotomy was done for those patients vision improved upto 6/12 and one develop pseudophakic bullous keratopathy was seen in pseudoexfoliation patient due to less endothelial cell count ,that patient was registered for optical penetrating keratoplasty.

Conclusion -

In this study 100 eyes of 100 patients who were admitted for cataract surgery in without having any systemic illness were included. These patients were observed during pre-operative, operative, early post –operative and late post – operative periods for the incidence of complications and following conclusion were drawn:

1. Intraoperative complications posterior capsule rupture with vitreous loss in 3 cases was seen due to zonular dehiscence and non-dilating pupil in case of pseudo exfoliation. A good vitrectomy should be done in cases of vitreous loss to prevent postoperative sequences.

2. The most common postoperative complication at POD1 was striate keratitis 7%, iritis 5%, corneal edema in 3% cases (more common in hypermature cataract and pseudoexfoliation cases). The other complications noted were iris prolapse 1%, hyphema 2%, wound gap 2%, shallow anterior chamber 2%, and residual lens material 2%. These complications can be prevented by doing minimum intraocular manipulation during surgery. Shallow anterior chamber, iris prolapsed and hyphema should be treated promptly to prevent sequel.

3. The postoperative complications at the end of 1 week includes corneal edema 2% cases, iris prolapse 2% cases, persistent uveitis in 3% cases.

4. The most common late postoperative complication was posterior capsule opacification 5%, followed by Decentered IOL 4% cases, bullous keratopathy 2% cases, and cystoid macular edema 1%. The incidence of PCO can be reduced by thorough cortical wash and posterior capsule polishing. PBK can be reduced by doing minimum intraoperative manipulation and using adequate viscoelastic to prevent endothelial damage.

The overall complications in patients without any systemic illness were very less in comparison to patients with systemic illness. Manual small incision cataract surgery is a good choice of surgical procedure to rehabilitate the cataract patients.

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