

# A Study of Evaluation of Cataract Surgeries Done in G.T. Sheth Govt. Eye Hospital, Rajkot, Gujarat, India

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**Abstract:** Study of evaluation of cataract surgeries done in G.T. Sheth government eye hospital and to compare pre & post operative serial visual acuity in operated eye upto 1.5 months & evaluate the rate of complication following cataract surgeries. This study is observational study that will be out carried in 1482 patients who will be attending OPD at G.T. Sheth Govt. Eye Hospital, Dept. Of Ophthalmology, P.D.U Government Medical College Rajkot, Gujarat. Higher rate of postoperative complications shown in resident trainees than consultants and best visual outcome also shown in cataract surgery performed by consultants. We believe that our low rate of complications in a 1st year residents surgeries due to appropriate case selection by the attending surgeon and meticulous supervision, including appropriate and timely intervention by the supervising surgeon when it was determined that further surgery by resident would likely lead to a complication.

**Keywords:** Visual outcomes, per-operative & post-operative complications

## 1. Introduction

Cataract is caused by degeneration and opacification of lens fibres already formed, the formation of aberrant lens fibres or deposition of other material in their place.<sup>[1,2]</sup> The loss of transparency occurs because of abnormalities of the lens proteins and consequent disorganization of the lens fibres. most common cause of blindness in India is cataract. So these steadily increasing need for surgical services capable of delivering good quality vision rehabilitation leads to a subsequent need for qualified, proficient ophthalmic surgeons. To accommodate this situation, effective and validated surgical training programs are required to ensure that residents in training achieve greater levels of competence in cataract surgery.

### Objectives

To compare pre & post operative serial visual acuity in operated eye upto 1.5 months. Evaluate the rate of complication following cataract surgeries. Enhance surgical performance of consultant ophthalmologist. For residents better quality of training and improve their learning curve.

## 2. Materials and Methods

This study is observational study that will be out carried in 1482 patients who will be attending OPD at G.T. SHETH GOVT. Eye Hospital, Dept. of Ophthalmology, P.D.U Government Medical College Rajkot, Gujarat. In this study patient will undergo routine post operative ocular examination, posterior segment examination, Keratometry, biometry and assessment of post-operative complications after cataract surgery will be done.

### Inclusion Criteria

A patient who are operated for cataract surgery at GT SHETH Govt. Eye hospital, PDU Government Medical college, Rajkot are included in the study

**Exclusion Criteria:** Any patient with cataract having associated ocular pathology like iridocyclitis, retinal and macular diseases, corneal diseases, glaucoma, trauma. There are different methods of cataract surgery: Conventional ECCE, ECCE by small-incision cataract surgery (SICS), Phacoemulsification, Femtosecond laser assisted cataract surgery.

## 3. Results and Analysis

**Table 1:** Distribution of patients on basis of operating surgeons

Operating Surgeon	No. of Patients operated	Percentage
First year resident	113	7.7%
Second year resident	203	13.7%
Third year resident	226	15.2%
Consultant	940	63.4%

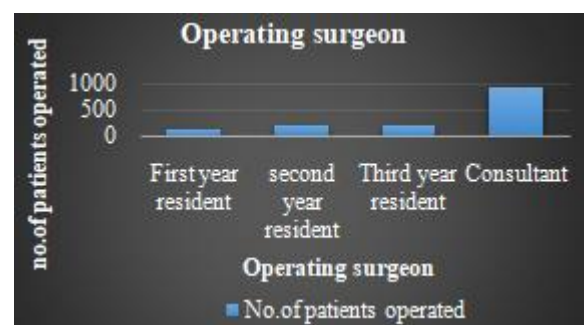


Table 1 shows maximum cataract surgery done by Consultants and minimum cataract surgery done by first year residents.

**Table 2:** Distribution of patients on basis of postoperative complications

Postoperative complication	No. of patients	Percentage
Cornea related complication	559	51.6%
Anterior Chamber complications	309	28.5%
Lens related complications	191	17.6%
Posterior segment complications	23	2.3%

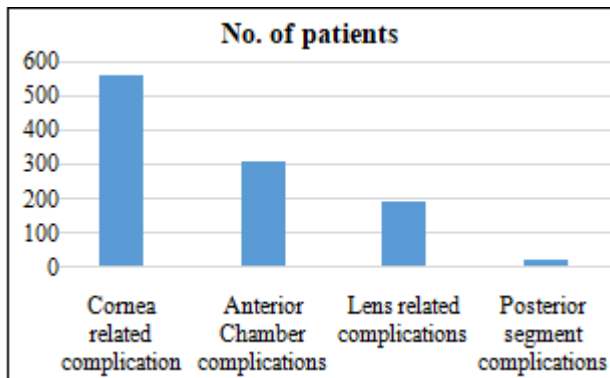


Table 2 shows maximum patients with Postoperative complication is cornea related complications and minimum patients with Postoperative complication is Posterior segment complications.

**Table 3:** Distribution of frequency of complications on basis of postoperative complications

Post operative complications	Frequency of complications
Corneal Edema	457
Striate Keratopathy	48
Central Keratitis	17
Decemet Membrane Detachment	31
Shallow Anterior chamber	55
Hyphema	33
Iridodialysis	16
Iris Prolapse	44
Increased IOP	112
Iridocyclitis	49
Decenteration of IOL	158
Posterior Capsular Rupture	32
Lens Drop	1
Vitreous loss	17
Cystoid Macular edema	06

Table 3 shows maximum patients with Postoperative complication is Corneal edema and minimum patients with Postoperative complication is Lens drop.

**Table 4:** Distribution of patients on basis of Type of surgery performed by consultants

Type of Surgery by consultant	No. of patients operated by consultant	Percentage
SICS	221	24%
Phacoemulsification	719	76%

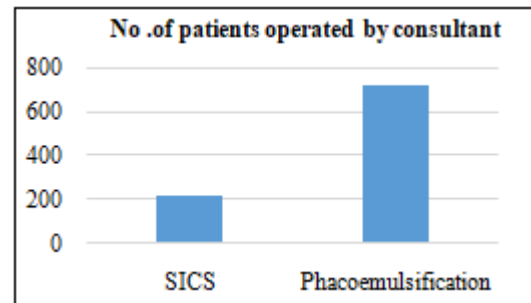


Table 4 shows maximum patients operated by consultant is done by Phacoemulsification and minimum patients operated by consultant is done by SICS.

**Table 5:** Comparison of postoperative complication on basis of Type of surgery (SICS/Phaco) performed by consultants

Postoperative complications	SICS performed by consultant	Phacoemulsification performed by consultant
Corneal edema	58(24.2%)	209(28.1%)
Striate Keratopathy	04(1.67%)	24(3.2%)
Central Keratitis	01(0.4%)	11(1.4%)
Descemet detachment	04(1.67%)	14(1.8%)
Shallow Anterior Chamber	05(2.09%)	07(0.9%)
Iris prolapse	03(1.25%)	00(0.0%)
Increased IOP	11(4.6%)	18(2.4%)
Iridocyclitis	07(2.9%)	06(0.8%)
Decenteration Of IOL	12(5.1%)	33(4.4%)
Posterior capsular rupture	03(1.25%)	09(1.2%)
Vitreous loss	02(0.8%)	06(0.8%)

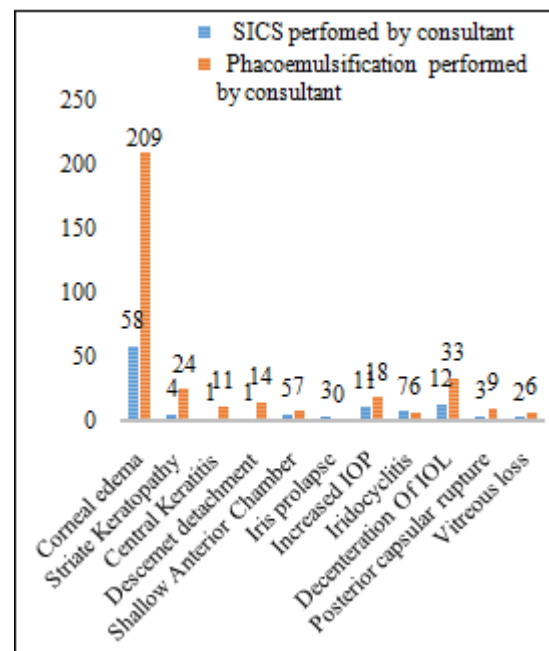


Table 5 show maximum postoperative complication is corneal edema in SICS and Phacoemulsification performed by consultant and minimum postoperative complication is Central Keratitis and Iris prolapse in SICS and Phacoemulsification performed by consultant respectively.

#### 4. Discussion and Conclusion

A higher rate of postoperative complications shown in resident trainees than consultants and best visual outcome also shown in cataract surgery performed by consultants. We believe that our low rate of complications in a 1<sup>st</sup> year residents surgeries due to appropriate case selection by the attending surgeon and meticulous supervision, including appropriate and timely intervention by the supervising surgeon when it was determined that further surgery by resident would likely lead to a complication. Complications like Corneal edema, Striate keratitis and Central keratitis more in Phacoemulsification than SICS and Complications like Shallow AC (wound leak), Iris prolapse, vitreous loss, Increased IOP and Iridocyclitis less in Phacoemulsification than SICS.

Cataract is the leading cause of blindness and cataract surgery is the most common performed surgical procedure by ophthalmologist and therefore is an integral component of ophthalmology residency training. Significantly higher rate of intraoperative and postoperative complications in residents than consultants. In case of our study, we found Most common complication occurred by consultants are Corneal complications(34%). Residents showed a better performance in form of decrease intraoperative complication and better visual outcome by 3<sup>rd</sup> year residents due to maximum surgical experience among resident group. so,for residents have platform for better quality of training and improve their learning curve.

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