



## AUDIT OF CATARACT SURGERIES REQUIRING REVISIT FOR COMPLICATIONS

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**ABSTRACT** **Background:** To identify patient related and surgeon related factors contributing to complications during a cataract surgery which can be minimized with stringent protocols. This can be crucial in improving the quality of cataract surgery while performing high volume cataract surgeries. **Method:** This cohort study assessed the number of patients requiring re-surgeries and the factors contributing to the same. **Result:** In our department, for the months of June, July and August the total number of patients operated were about 367. And the patients requiring re-surgeries during this period were about 16 (4.35%). Being a teaching hospital with an active resident program this rate of complication falls within the acceptable levels. Even though strict adherence to the standard protocol was followed, we encountered these complications due to patient related factors which were unavoidable. **Conclusion:** Though SICS is a very effective and safe procedure, complications do occur largely because of patient related factors like age, grade of cataract, systemic co-morbidities, and ocular factors like pseudoexfoliation, small pupil and due to uncooperative patients during surgery.

**KEYWORDS :** Cataract, Surgical audit, Cataract resurgeries

### INTRODUCTION

Cataract is one of the most frequent curable causes of blindness globally. It is the opacity of the lens or its capsule for which the definitive treatment is surgical removal of opacified lens and placement of intraocular lens.<sup>3</sup>

In India, the burden due to cataract surgery is increasing exponentially due to other impending factors namely poverty, inaccessibility to health care facilities and ignorance.<sup>4</sup>

The two most popular forms of cataract surgery in India are sutureless manual small incision cataract surgery (MSICS) and Phacoemulsification. Both the techniques have advantage of being sutureless, require small incision and result in faster visual rehabilitation<sup>5</sup>. However MSICS have the merits of wider applicability, less time consuming, shorter learning curve and lower cost while compared to phacoemulsification due to high cost and equipment maintenance that cannot be adapted in developing countries.<sup>5</sup>

MSICS is the most suitable method while performing high volume surgeries.<sup>5</sup>

### METHODS:

This cohort study assessed the number of patients requiring re-surgeries and the factors contributing to the same.

### DISCUSSION:

There are numerous studies done showing the efficacy, safety and low complication rates associated with MSICS.

MSICS comprise of many manual maneuvers in the anterior chamber unlike phacoemulsification, first the capsulotomy, then dislodging the nucleus from the posterior to the anterior chamber, removing the nucleus from the scleral tunnel, cortical aspiration and intraocular lens implantation.<sup>6</sup>

The main outcome assessed, BCVA, major intraoperative complications (including PCR, vitreous loss and zonular dialysis), and postoperative complications (including endophthalmitis, retinal detachment, hyphaema, raised intraocular pressure (IOP; >21mmHg) and central corneal edema)

In a study done by Gupta and colleagues, highlighted that the risk of surgical complications and reoperations in MSICS was greater in residents with minimal surgical experience and recommended that residents required a minimum of 300 or more supervised MSICS cases in order to achieve an intraoperative and postoperative complication

rate of less than 2%. These results highlight the need for a systematic training strategy and techniques for junior surgeons.<sup>7</sup>

In a study done at Madurai, comparing complications rates with Phacoemulsification and manual SICS noted that the overall intraoperative complication rate was 0.79% for staff, 1.19% for fellows, 2.06% for residents, and 5% for visiting trainees.

Thus the complication rates for manual SICS and phacoemulsification was comparably low in the hands of surgeons experienced in both techniques. However, manual SICS had a much lower surgical complication rate in the hands of trainee surgeons.<sup>8</sup>

**Table 1- Patients Requiring Resurgeries**

Sno.	Age	Sex	Ocular Rf	Diagnosis	Complication	Resurgery
1	50	F	Le – No3nc3p3	Le Imsc With Psc Re Pseudophakia With Peripheral Pco	PC Rent	Secondary Iris Claw Lens
2	57	M	Le – Mature Cataract	Le Mature Cataract Re Imsc With Psc	Phacodonesis	Secondary ACIOL
3	65	F	Le – N03nc3c4 P5	Re Pseudophakia Le Imsc Psc With Le Mild Npdr	IOL Dislocation	Secondary Iris Claw Lens
4	71	M	Le – No4nc4 Pxf	Re Pseudophakia Le Imsc Psc With Le Mild Npdr	PC Rent	Secondary IOL implantation with cortex aspiration
5	65	F	Le – No1nc1p3	Post Op Le Sics With Pciol Under La Pod 5 Re Pseudophakia		Cortex aspiration
6	62	M	Re – N05nc5p3 Pxf	Re Post Op Sics With Pciol Under La Pod 7 Le Imsc With Psc With Pxf		Cortex aspiration

7	70	M	Re – No3nc3	Post Op Re Sics With Pciol Under La Pod 5 Re Dislocated Iol Le Imsc With Pssc	IOL Dislocation	IOL Redialing
8	70	M	Re – No4nc4 C3 P4	Re Post Op Sics With Pciol La Pod 2 Le Imsc With Pssc	Vitreous prolapse	wound repair
9	62	M	Le – No4nc4p3	Post Op Le Sics With Pciol Under La Pod 1 Re Pseudophakia	Iris prolapse	wound repair

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## RESULTS/ CONCLUSION

Manual small incision surgery (SICS) is the most commonly preferred technique while doing high volume cataract surgeries. It is a safe and effective technique in managing cataract. The Intra-operative complications rate observed in SICS is about 8.8%.<sup>1</sup> In hospitals with a resident teaching program the intra-operative complication rate was approximately 9.1%.<sup>2</sup> In our department, for the months of June, July and August the total number of patients operated were about 367. And the patients requiring re-surgeries during this period were about 16 (4.35%). Among this 7 patients lost to follow up. Being a teaching hospital with an active resident program this rate of complication falls within the acceptable levels. To minimize these complications, we follow a strict checklist and protocol tailored for every patient based on their systemic and ocular co-morbidity, despite which these complications have occurred. Strict SOPs are followed by our department to manage the complications occurring during the intra-operative period.

Though SICS is a very effective and safe procedure. Complications do occur largely because of patient related factors like age, grade of cataract, systemic co-morbidities, and ocular factors like pseudoexfoliation, small pupil and due to uncooperative patients during surgery.

Vision improved for >90% of all our patients operated during this period from their baseline visual acuity.

## Action Plan

Patients will be thoroughly examined, factors like pseudoexfoliation, small pupil will be identified and a tailor-made modification during cataract surgery will be followed as per our existing protocol. Resensitization of residents and faculties will be conducted to minimize the complications to the bare minimum.

## Re-audit

Re-audit will be conducted for the next quarter to assess the success of the audit.

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