



MANUAL SMALL INCISION CATARACT SURGERY ASSOCIATED SHORT TERM COMPLICATIONS IN A TEACHING HOSPITAL OF RURAL KARNATAKA

Ophthalmology

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ABSTRACT

Background: The commonest cause of blindness in the world is due to cataract and its incidence is about 55% of all causes of blindness in India. Many techniques are used to remove cataractous lens but the Small Incision Cataract Surgery (SICS) is preferred. Short-term complications are those that occur within days to weeks following the surgery. Surgery is inflicting planned wound on an organ. Understanding the short-term complications associated with SICS is essential for finetuning surgical techniques, guiding future research in order to improve patient wellbeing. **Objective:** To evaluate the short term complications involved in patients undergoing Small Incision Cataract Surgery. **Methods:** This Prospective descriptive study on the patients above 50 years of age belonging to either sex diagnosed to have cataract at the Department of Ophthalmology of Akash Institute of Medical Sciences and Research Centre, Devanahalli, Bangalore, India, were included in the study. Data on Manual Small Incision Cataract Surgery (MSICS) complications were collected and analysed using statistical tools. **Results:** The age group of 100 patients ranged from 51 to 85. The mean age was 66.57 ± 9.11 years. Number of females were 58, and males, 42. The post-operative short term complications were corneal edema 20.25%, Increase in Intraocular Pressure 26.38%, Hyphema 29.45% and Iritis 23.92%. **Conclusions:** The present study indicated that soon after the surgery, all the patients showed one or more reactions from mild edema to iritis. With proper medical treatment, they were managed.

KEYWORDS

Corneal Edema, Hyphema, IOP, Iritis, Short-Term-Complication, SICS.

INTRODUCTION:

The commonest cause of blindness in the world is due to cataract and its incidence is about 55% of all causes of blindness in India.¹ Many techniques are used to remove cataractous lens, but the Small Incision Cataract Surgery (SICS) is preferred. Several investigators have compared SICS to phacoemulsification and shown similar outcomes.^{1,2} The advantage of SICS is that it is a low-cost alternative technique to phacoemulsification. Short-term complications are those that occur within days to weeks following the surgery. Surgery is inflicting planned wound on an organ. Eyes are more sensitive to wound compared to other organs. Short term complications may indirectly indicate the long term success of the surgery. Understanding the short-term complications associated with SICS is essential for finetuning surgical techniques, guiding future research in order to improve patient wellbeing.³

METHODS:

One hundred patients with complaints of difficulty of near and far vision, blurring of vision, headache, visiting the Medical camp and taking admission in Department of Ophthalmology of Akash Institute of Medical Sciences and Research Centre, Devanahalli, Bangalore were included in the study. This Prospective Descriptive study on the patients above 50 years of age belonging to either sex diagnosed to have cataract were included. Data on Manual Small Incision Cataract Surgery (MSICS) complications were collected and analysed using statistical tools.

The relevant pre-surgery investigations were conducted on these patients. During the time of surgery, the patients were monitored for intraoperative complications, if any and recorded. From postoperative day 1 to postoperative day 90, the patients were monitored for postoperative complications, if any and recorded. Short term complications arising soon after the operations were recorded and statistically analysed.

RESULTS:

Table 1. Frequency Of Patients In Each Age Group.

Age	Female	Male	Total
<55	8	6	14
60	12	8	20
65	6	6	12
70	12	9	21
75	9	6	15
80	6	5	11
85	5	2	7
SUM	58	42	100

(a) Age And Gender:

The age group of the randomly enrolled 100 patients ranged from 51 to 85. The mean age was 66.57 ± 9.11 years. Number of females were 58, and males, 42. The mean age of females were 66.97 ± 9.11 years (Minimum 51, maximum 85 years). Since the number of patients (n) were 100, $n=n$. The mean age of males were 66.26 ± 9.09 years (Minimum 52, maximum 83 years). The frequency of patients in different age groups are shown in Table 1.

(b) Short Term Complications:

Surgery, being a planned injury, all the patients showed one or more reactions if not attended to, would lead to major complications. Total incidences of short term complications were 163, some patients had only one complication, and some had more than one. Though the degree of the reactions varied among patients, they were broadly classified into the following conditions:

(i). Corneal Edema

Corneal edema is the swelling of the cornea due to endothelial cell damage during surgery. The symptoms were, blurred vision, halos around lights. In the present study 20 female patients and 13 male patients, together, 33 (20.25%) patients showed mild to medium corneal edema (Table 2). They were treated with hypertonic saline drops or ointments or topical steroids as the case demanded.

(ii). Increased Intraocular Pressure (IOP):

Increased Intraocular Pressure (IOP), is the elevated pressure inside the eye, often due to retained viscoelastic material or inflammation. The symptoms were, pain, redness, blurred vision. In the present study 27 female patients and 16 male patients, together, 43 (26.38%) patients showed mild to medium increased IOP (Table 2). They were managed with Antiglaucoma medications, such as beta-blockers and prostaglandin analogs.

(iii). Hyphema:

Hyphema is the accumulation of blood in the anterior chamber due to trauma or surgical manipulation. The symptoms were visual disturbance, pain. In the present study 25 female patients and 23 male patients, together, 48 (29.45%) patients showed mild to medium Hyphema (Table 2). They were managed with the use of cycloplegics and topical steroids.

(iv). Iritis

Any touch or irritation to the iris or, small capsular opening results in iritis. The symptoms were pain, decreased vision and eye redness, inflammation limited to the Iris. In the present study 20 female patients

and 19 male patients, together, 39 (23.92%) patients showed mild to medium Iritis (Table 2). They were treated with antibiotic and steroid eye drops along with cycloplegics.

Table 2. Post-operative Short-term Complications.

No of Complications	Female	Male	Total	% Total
Corneal Edema	20	13	33	20.24
Increased Intraocular Pressure (IOP)	27	16	43	26.38
Hyphema	25	23	48	29.44
Iritis	20	19	39	23.92
Total	92	71	163	100

DISCUSSION:

Goel et al⁴, explained that “wound-related complications can be minimized by taking appropriate surgical steps. A premature entry traumatizes the iris base and can cause iris prolapse, iridodialysis, and hyphema.” They say that “Transient corneal edema lasting for less than a week was, mostly during the learning phase. Any touch to the iris with the nucleus or an instrument, especially in the floppy iris, presence of synechiae, non-dilating pupil, or small capsular opening results in iritis” Jha et al⁵, reported that in their studies, females were more in proportion. In the present study also females, male number was 58:42 (1.38:1.00). J], Bhikoo et al⁶, reported that 8% Macular oedema at 4 weeks. Khanna et al⁷, reported that “complication rate was higher in the MSICS group, compared to phacoemulsification group.” Nampradit and Kongsap⁸, reported “In the MSICS group, the most common complications were hyphema (4.35%), posterior capsule ruptures (4.21%), and prolapsed iris (3.05%). Long-term postoperative complication rates were higher in the phacoemulsification group.” Venkatesh et al⁹, in a “study of 100 eyes that underwent MSICS with white cataract reported corneal edema with >10 Descemet's folds in 6%, and 7% cases had corneal edema with <10 Descemet's folds. Six cases had mild iritis and three eyes had moderate iritis. Iridodialysis was observed in one eye.” Ang et al¹⁰, reported that “Postoperative complications occurred 12.7%. The most common complication during the mean follow-up duration of 10.0 weeks was raised intraocular pressure (5.5%).” Guzek and Ching¹¹, reported that “The main complication of small-incision surgery was moderate corneal edema, which persisted until at least the 1-week (7%).”

CONCLUSION:

The present study indicated that soon after the surgery, all the patients showed one or several reactions. from mild edema to iritis. With proper medical treatment, they were managed.

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Conflicts Of Interest:

There are no conflicts of interest.

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