

Original article:

Evaluation of Post-Operative Complications of Cataract Surgery: A Hospital Based Study

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ABSTRACT

Background: Cataract is defined as the opacification of the eye lens. Doing surgical audits is amongst one of the methods for controlling quality.⁹ To evaluate the quality of cataract surgery, markers like visual outcome is vital both for the clients as well as the operator. The present study was conducted with the aim to determine the complications associated with cataract surgery.

Materials and Methods: The study was conducted in the retrospective manner in the Department of ophthalmology Swatantra Sainani late Dr. Mangal Singh District Hospital, Dholpur, Rajasthan, India. Amongst all the subjects, the type of surgical procedure performed was also noted. The visual acuity of all the subjects was noted both pre and post operatively. The surgical complications encountered by the patients during the postoperative period were taken into consideration. The data thus obtained was recorded in a tabulated form and analyzed using SPSS software. Percentage of all the information was obtained for statistical analysis.

Results: The present study consisted of 1200 subjects, amongst them 624 (52%) were males and 576 (48%) were females. Majority of the subjects were above 50 years of age (34%). Amongst the early surgical complications, the most common was Cornea oedema seen in 3.75% cases. There were 2.25% cases of hyphema.

Conclusion: The incidence of complications associated with cataract surgery are also increasing. So, it is required to keep a check on the complications associated with cataract surgery. In the present study, the chief early complication was corneal oedema.

Keywords: Cornea, Complications, Oedema.

INTRODUCTION

Cataract is defined as the opacification of the eye lens. It commonly presents as blurred, cloudy and decreased vision along with visualization of haloes round the light and inability to visualize in dim light.¹ Various risk factors have been associated that affect development of cataract development. Few amongst the common risk factors include advancing age, exposure to sun, trauma, use of steroid, smoking and hereditary factors.² Amalgamation of two or more risk factors usually lead to the occurrence of cataract amongst any individual. Unmanaged and untreated cataract can lead to blindness.^{3,4} As per the World Health Organization survey, untreated cataract accounts for 25%

of the visual impairment globally. The treatment for cataract worldwide is surgical removal of the defective lens and implantation of the artificial lens.⁵⁻⁷ Studies have elaborated that the cataract amenities are underutilized. Additionally due to increased cataract surgery rates, it is crucial that quality of cataract surgery is highly maintained to attain targets associated with the Vision 2020 initiatives.⁸ Doing surgical audits is amongst one of the methods for controlling quality.⁹ To evaluate the quality of cataract surgery, markers like visual outcome is vital both for the clients as well as the operator. Respectable surgical outcomes are important in relieving the load of cataract blindness by favoring cataract surgery amongst the people. Inappropriate outcomes faced by patients after surgery affect the demand of cataract surgery by the community and puts a negative impact on perception of people about cataract surgery.¹⁰ In most parts of the world huge attention is paid to the quality of cataract surgery in order to improvise the post-operative visual outcome. Recent population-based studies amongst the developing countries showed that 40-75% of post-operative eyes presented with visual acuity worse than 6/18.¹¹⁻¹⁴ The present study was conducted with the aim to determine the complications associated with cataract surgery.

MATERIALS AND METHODS

The study was conducted in the retrospective manner in the Department of ophthalmology, Swatantra Sainani late Dr. Mangal Singh District Hospital, Dholpur, Rajasthan, India. All the outpatient hospital records for the cataract surgery were evaluated. The subjects were divided into senile, pre-senile, juvenile and further were divided based on gender type. Amongst all the subjects, the type of surgical procedure performed was also noted. The visual acuity of all the subjects was noted both pre and post operatively. The surgical complications encountered by the patients during the postoperative period were taken into consideration. Cases of traumatic cataract, emergency surgery and cataract with glaucoma were not included in the study. Also subjects with any systemic cor-morbidities were excluded from the study. Early associated complications of surgery were considered as those clinically events that occurred during the surgery and within 48 hours of the surgery. Late complications were regarded only those surgical related complications that occurred within 4-6 weeks of surgery, which required clinical assessment and further management. All the data was recorded in a pre-designed and pre tested proforma. Snellen's chart was used for testing the visual acuity. The data thus obtained was recorded in a tabulated form and analyzed using SPSS software. Percentage of all the information was obtained for statistical analysis.

RESULTS

The present study consisted of 1200 subjects, amongst them 624 (52%) were males and 576 (48%) were females. Majority of the subjects were above 50 years of age (34%). There were 29% subjects between 21-30 years of age. There were 20% subjects between 31-40 years of age. Only 16% of the subjects were between 41-50 years of age. Majority of subjects i.e. 648 (54%) were unemployed and 46% were employed. (Table 1)

Table 2 illustrates the complications associated with cataract. Amongst the early surgical complications, the most common was Cornea oedema seen in 3.75% cases. There were 2.25% cases of hyphema. High intraocular pressure was seen amongst 1.5% cases. Iridodialysis was seen amongst 5 cases. There were 4 cases of Dislocated IOL. Anterior capsule tear was observed in 3 cases. There were 2 cases of Iritis. Posterior synaechia was observed in 0.4% cases. There were no cases of Subconjunctival hemorrhage. Amongst the late surgical complications, the most

commonly observed complication was Posterior caps opacification, seen amongst 1.6% cases. There were 0.6% cases of Vitreous loss. There was 1 case of Punctate keratitis. 4 patients suffered from Macular oedema. There was no case of Band keratopathy. There was 1 case of Cornea dystrophy, Corneal edema, Dislocated IOL, Hyphema and Total hyphema respectively.

Table 1: Demographic characteristics of the study

Demographics		Frequency
Gender	Male	624(52%)
	Female	576(48%)
Age	21-30	348(29%)
	31-40	240(20%)
	41-50	192(16%)
	>50	408(34%)
Employment status	Employed	552(46%)
	unemployed	648(54%)

Table 2: Complications associated with cataract

Complication	Frequency	Percentage
Early surgical complications		
Cornea oedema	45	3.75
Hyphema	27	2.25
High IOP	18	1.5
Conjunctival injection	10	0.8
Iridodialysis	5	0.4
Dislocated IOL	4	0.3
Striate keratitis	5	0.4
Posterior synechia	5	0.4
Anterior capsule tear	3	0.25
Iritis	2	0.17
Vitreous haemorrhage	2	0.17
Subconjunctival hemorrhage	0	0
Punctate keratitis	1	0.08
Late surgical complications		
Posterior caps opacification	19	1.6
Vitreous loss	7	0.6
Macular oedema	4	0.3

Band keratopathy	0	0
Cornea dystrophy	1	0.08
Corneal edema	1	0.08
Dislocated IOL	1	0.08
Hyphema	1	0.08
Total hyphema	1	0.08
Trauma to the eye	0	0

DISCUSSION

Cataract is one of the frequently associated etiology of blindness around the globe, and most of the cataracts are associated with age.¹⁵ Amongst the developing nations like Australia cataract surgery is the most commonly performed ophthalmic treatment.¹⁶ Associated with increasing population and age advancement, the burden of cataract is elevating amongst the societies especially seen in the developing nations as it is seen at a young age and healthcare facilities are limited.¹⁷ Though cataract Surgeries are commonly performed and are an efficient cure, surveys to find the causative factors and pathophysiology for processing of cataract is a main challenge in the 21st era.¹⁸ Studies associating the risk factors associated with cataract development¹⁹⁻²⁵ are extensively performed to establish the risk factors. The risk factors can be divided into modifiable and preventable factors that when targeted can decrease the occurrence of cataract. Few of the risk factors that are identified are smoking,²⁵⁻²⁷ exposure to UV-B radiation for cortical cataract formation , and diabetes and use of steroid for posterior subcapsular cataract.²⁴ In the present study, the complications associated with cataract surgery were established. Amongst the early surgical complications, the most common was Cornea oedema seen in 3.75% cases. There were 2.25% cases of hyphema. High intraocular pressure was seen amongst 1.5% cases. Iridodialysis was seen amongst 5 cases. There were 4 cases of Dislocated IOL. Anterior capsule tear was observed in 3 cases. There were 2 cases of Iritis. Posterior synaechia was observed in 0.4% cases. There were no cases of Subconjunctival hemorrhage. Amongst the late surgical complications, the most commonly observed complication was Posterior caps opacification, seen amongst 1.6% cases. There were 0.6% cases of Vitreous loss. 4 patients suffered from Macular oedema. There was no case of Band keratopathy. There was 1 case of Cornea dystrophy, Corneal edema, Dislocated IOL, Hyphema and Total hyphema respectively. As per the study by Isawumi et al²⁸ and Ashaye et al²⁹ , at Western Nigeria showed that 47.5% and 40.2% subjects showed good outcome and there were fewer number of blind eyes. As per the study by Alhassan et al³⁰ and Ezegwui and colleagues³¹ there were 37% and 35.4% subjects for good outcome respectively. The incidence of posterior capsular opacity was 11.4% in Sierra Leone³² , 5.17% amongst Ethiopian subjects³³ and 6.28% in Nigeria³¹ . In developing nations there were large number of hypermatured and Morgagnian cataracts cases and therefore there was a greater risk of posterior capsule defects and vitreous loss³⁴ .

CONCLUSION

Since cataract is a commonly encountered procedure and the incidence of people getting operated for cataract are also increasing and is the incidence of complications associated with cataract surgery are also increasing. So, it is

required to keep a check on the complications associated with cataract surgery. In the present study, the chief early complication was corneal oedema.

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