

Case Report

A STUDY OF POST OPERATIVE COMPLICATIONS OF CATARACT SURGERY

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ABSTRACT

A prospective analysis of the common intra operative, post operative, late post operative and visual outcome after the cataract surgery was analyzed in the present study. Among the 200 cases enrolled, preoperative investigative procedures such as slit lamp examination, keratometry, IOL power calculation, intra ocular pressure and fundus evaluation were carried out. Surgery was performed under peribulbar anaesthesia with Extracapsular Cataract Extraction (ECCE), Small Incision Cataract Surgery (SICS) or Phacoemulsification (Phaco). 7.5% suffered vitreous loss due to posterior capsule rupture where as 5% exhibited endothelial damage. 22% of operated patients suffered posterior capsular opacification whereas 8.5% showed suture related complications. The visual outcome at the end of the 1st week 6/24 was improved in 36% in ECCE and 32.5% in SICS. At the end of the 4th week this outcome increased to 72.4% and 72% respectively. Attempts should be made to manage the above mentioned minimal complications with recent technologies and surgeon's expertise.

Keywords: *Cataract Surgery, Complications, Technologies*

INTRODUCTION

Cataract is the leading cause of curable blindness in India and cataract extraction is the most frequently performed surgery in patients over 55 years of age. According to World Health Organization there are about 42 million blind people in the world of which 17 million [40%] are blind due to cataract. In India, there is a cataract backlog of around 11.5 million and an annual increment of 3.8 million. We are entering the new millennium with added responsibility of eliminating this major preventable and treatable cause of blindness (Sheperd *et al.*, 1989).

The various methods of lens extraction include Needling, Linear extraction, Needling and Aspiration, Erisophake extraction, Extraction with diathermy prongs, Cryo extraction, Capsulotomy, Capsulectomy, Extracapsular extraction with forceps, Extracapsular Cataract Extraction (ECCE), and Small Incision Cataract Surgery (SICS), Phacoemulsification (Phaco). The selection of the method depends on the need of the patient, available technology and expertise of the surgeon.

Taking into consideration the wide spectrum of complications that follow cataract surgery and their influence on visual outcome, a sincere effort has been made in this study to critically analyze the incidence and the nature of various post operative complications among the total number of cataract extraction carried out. An attempt has also been made to evaluate the management of these complications with the facilities available (Swasch *et al.*, 1990).

MATERIALS AND METHODS

Prospective observational study of 250 cases that had cataract surgery includes pre-operative evaluation of anterior segment of the eyes by slit lamp biomicroscopy and posterior segment by fundus and B-scan examination. The cases with posterior segment problems were excluded in this study. The keratometry and IOL power were calculated using tekmar image 2000 A and B scan biometry. The surgeries were performed under peribulbar anesthesia. Ocular hypotony was achieved by ocular compression with pinky ball. All cases were instilled with povidine iodine [septidine] eye drops pre-operatively in conjunctival sac. Cases underwent either ECCE, SICS or phacoemulsification with IOL implantation. For the former five sutures were employed.

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RESULTS AND DISCUSSION

Gender distribution: in this study the total number of male patients was 88 [44%] and female patients were 112 [56%].

Type of cataract: Cortical cataract, immature cataract was seen in 105 [52.5%] cases, mature cataract in 34 [17%] and hypermature cataracts in 24 [12%] cases. In nuclear cataract grade I & II 11 [5.5%] and grade III & IV 24 [12%] and complicated cataract 2 [1%] were seen.

As for the surgery, extra capsular cataract surgery was done in 116 patients [58%], small incision cataract surgery in 73 [36.5%] and Phaco emulsification in 11 patients [5.5%].

The anterior capsule was opened by can opener techniques in 130 eyes [65%] in ECCE, followed by capsulorhexis in 48 years [24%] of SICS and linear capsulotomy in 22 eyes (11%).

Nucleus was expressed out by pressure and counter pressure technique in 116 eyes [58%], by microvectis in 69 eyes [34.5%], visco expression in 4 eyes [2%], and by Phaco emulsification in 11 eyes [5.5%].

Posterior chamber intra ocular lens was implanted in the bag in 81.5% and in ciliary sulcus 6 eyes (3%).

The posterior chamber IOL was multipiece with overall diameter of 13.5mm and had optic size of 6.5mm. Due to posterior capsular rupture, anterior vitrectomy with AC IOL was placed in anterior chamber in 19 eyes [9.5%]. The mushrooming vitreous was managed by open sky vitrectomy.

Scleral fixated IOL were sutured to the sclera in 3 eyes, (1.5%). IOL was not implanted in 9 eyes [4.5%] due to status of other eye (Raj *et al.*, 2000).

Conjunctiva was approximated back by repositioning in 137 eyes [68.5%], by bipolar diathermy in 61 eyes [30.5%] and by suture in 2 eyes which is of 1%.

The Complications

Intra Operative Complications

The most common that occurred in this study were vitreous loss 23[11.5%]. The vitreous loss is due to posterior capsular rupture in 15[7.5%] ECCE and 2[1%] in SICS eyes and zonular dialysis 8[4%] in ECCE and 2[1%] in SICS eyes. The next common complications are endothelial damage in 11. [5.5%] in ECCE and 3[1.5%] in SICS eyes. Iris prolapsed 9[4.5%] in ECCE and irregular incision in 6[3%] in ECCE and 5[2.5%] in SICS. Besides, premature entry in 2 eyes [1%], buttonhole 2[1%] in SICS and IOL related complications 2[1%] in ECCE and 1[0.5%] in SICS were observed respectively.

Post Operative Complications

The common are striate keratitis 98[49%] in ECCE, 42[21%] in SICS and 6[3%] in Phaco. Stromal edema 72[36%] in ECCE, 39[19.5] in SICS and 7[3%] in Phaco. Post operative fibrinous uveitis 48[24%] in ECCE, 7[3.5%] in SICS and 1[0.5%] in Phaco. Residual cortex 7[3.5%] in ECCE, 5[2.5%] in SICS and 1[0.5%] in Phaco. Other complications are exposed sutures 40[20%] in ECCE eyes, decentration of IOL 1[0.5%] each in ECCE and SICS EYES. Sphincter tear 7[1%] in ECCE eyes, vitreous haemorrhage in 2[1%] eyes in ECCE and 1[0.5%] in SICS. Iris prolapsed and shallow anterior chamber in 1[0.5%] SICS patient respectively.

Late Post Operative Complications

These include posterior capsular opacification 44[22%] in ECCE, 38[19%] in SICS and Phaco 6[3%] eyes. Suture related complications 17[8.5%] in ECCE eyes and post operative astigmatism.

Other late complications include corneal decompensation in 3[1.5%] in ECCE, 1[0.5%] in SICS. Chronic persistent uveitis 2[1%] eyes in ECCE and decentration on IOL in 1[0.5%] in each ECCE and SICS respectively.

Visual Outcome

At the end of first week best corrected visual acuity of 6/24 and better was 42[36%] in ECCE, 34[32.5%] in SICS and 7[63.6%] in Phaco patients. At end of the 4th week, the number of patients with best corrected visual acuity of 6/24 and better increased to 84[72.4%] in ECCE, 53[72%] in SICS and 11[11%] in Phaco patients.

Conclusion

Cataract surgery had undergone a tremendous metamorphosis from the simple procedure of couching practiced by sushruta to latest method of Phaco emulsification of Charles kelman.

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The conversion from ICCE to ECCE, SICS, Phaco, advent of micro surgery, availability of fine suture materials, affordable high quality lens implants and vitrectomy instrumentation have decreased the complications of cataract surgery.

Taking into consideration the wide spectrum of complications that follow cataract surgery and their likely influence on visual outcome, studies to critically analyze the incidence and the nature of various post operative complications among the total number of cataract extractions carried out should be done, attempt has also been made to evaluate the management of these complications with the facilities available.

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