

Audit Report

Cataract surgery at Marie Adelaide Leprosy Centre Karachi: An audit

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Abstract

Objective: To determine the outcome of cataract surgery in terms of visual results, intra and postoperative complications at Marie Adelaide Leprosy Centre.

Methods: The study was carried out at Marie Adelaide Leprosy Centre Karachi from May 2005 to December 2007. Surgical results of all outpatients operated for cataract from May 2005 to December 2007 were assessed. The data was collected using the CBM guidelines based on WHO monitoring systems for quality monitoring.

Patients having uncomplicated cataract were included. Postoperative follow up was done at discharge, 1 week, 4 weeks and after 12 weeks, visual acuity was recorded as good (6/6-6/18), borderline (6/18-6/60) and poor (<6/60), Intraoperative and postoperative complications were also noted.

Results: During the study period a total of 1457 patients underwent cataract surgery. There were 826 male patients and 631 female patients, their age ranged from 20 to over 80 years.

Preoperatively 1023 (70.2%) patients had poor, 362 (24.8%) patients had borderline while only 73 (5%) patients had good visual acuity while at discharge 962 (66%) patients had good, 392 (26.9%) patients had borderline and 104 (7.1%) patients had poor visual acuity. On an average among all the best corrected visual acuity was good in 97.2%, borderline in 2.2% and poor in 0.6% patients at 1 week, 4 weeks and >12 weeks follow up respectively. A large number of patients, 565 (38.7%) did not turn up after discharge for follow up, presumed reasons were: good vision, unable to return because of socioeconomic reasons, ill health and few of the patients expired.

Intraoperative complications seen were posterior capsular rent with vitreous loss 70 (4.8%), zonular dehiscence 3 (0.2%), posterior loss of cortical matter 2(0.1%) and iris prolapse in 4 (0.2%) cases. Immediate postoperative complication was striate keratopathy 157(10.7%), late were chronic anterior uveitis 3(0.2%), corneal decompensation 2(0.1%) choroidal and retinal detachment 1 (0.06%) each, Intraocular Lens (IOL) subluxation 4 (0.2%) and Posterior capsular opacification 40(2.7%).

Conclusion: In our study visual outcome achieved was comparable to the standards set by World Health Organization. In complicated cases functional vision can be achieved with timely management.

Keywords: Cataract surgery, Visual outcome, Complications (JPMA 61:688; 2011).

Introduction

Cataract continues to be the leading cause of worldwide blindness, alone is responsible for 51.5% of blindness in Pakistan, according to Pakistan's National Blindness and Visual Impairment Survey 2002-2003.¹ The treatment for cataract is surgical extraction followed by intraocular lens implantation. There are several techniques for cataract extraction among which phacoemulsification is now the gold standard but in developing countries like Pakistan extracapsular cataract extraction (ECCE) is still the largely performed procedure, cost, availability and training being the major barriers for adopting phacoemulsification at large.

Clinical audit is a tool that can be used not only to monitor quality of services provided by us but also tells us whether we are doing it well or not. The WHO has recommended that postoperative visual outcome after cataract surgery should be good (>6/18) in 90%of cases and

poor (<6/60) in less than 5% of cases.²

The objective of this study was to assess the surgical results in terms of visual outcome and the complications occurring intra and post operatively, in order to continuously monitor surgeon's performance and to improve quality of eye care provided to the cataract patient.

Materials and Methods

The study was carried out at Marie Adelaide Leprosy Centre Karachi which assessed the surgical results of all outpatients operated for cataract from May 2005 to December 2007. The data was collected using the CBM guidelines based on WHO monitoring systems for quality monitoring.

Patients having only senile cataract were included in the study while patients with secondary cataracts and those with phacomorphic glaucoma were excluded.

The patients were thoroughly evaluated preoperatively. The visual acuity was recorded using

Snellens chart. Slitlamp examination, IOP measurement, indirect ophthalmoscopy were done while B-Scan was obtained where indicated. Any infective disorder of ocular adnexa was looked for and treated before surgery if present. Keratometry and A-Scan were performed to calculate IOL power using SRK-II formula. Systemic co-morbidities mainly diabetes mellitus, hypertension and cardiac illness were looked for as well. Tab Asprin/Ascard was discontinued three days prior to surgery.

All the surgeries were performed under local anaesthesia, sub-tenon injection of xylocaine (2ml) + gentamicin (0.5ml) + dexamethasone (0.5ml) was given through the inferonasal quadrant. The surgical techniques used were extracapsular cataract extraction (ECCE) and phacoemulsification with implantation of rigid Polymethyl Methacrylate (PMMA) IOLs.

Postoperatively, all the patients were treated with topical antibiotics, corticosteroids. Mydriatic agents and hypertonic saline was used in cases of uveitis and striate keratopathy respectively.

Postoperative follow up was done at discharge, 1 week, 4 weeks and after 12 weeks, visual acuity was recorded as good (6/6-6/18), borderline (6/18-6/60) and poor (<6/60), Intraoperative and postoperative complications were noted.

Results

During the study period a total of 1457 patients underwent cataract surgery, among which 1288 (88.4%) had ECCE while only 167 (11.4%) had phacoemulsification and accidental ICCE was encountered in one patient. In 1416 (97.2%) patients PC IOL was implanted, 24 (1.6%) had AC IOL and 15 (1.2%) were left aphakic because of intraoperative complications and hence were excluded from the analysis of visual outcome.

There were 826 male patients and 631 female patients, their age ranged from 20 years to over 80 years. The commonest age group being 50-69 years, 1087 (74.6%) patients fell in this age group.

Preoperatively 1023 (70.2%) patients had poor, 362 (24.8%) had borderline while only 73 (5%) had good visual acuity while at discharge 962 (66%) patients had good, 392 (26.9%) had borderline and 104 (7.1%) had poor visual acuity.

Out of total patients 892 (61.2%) visited for first follow up at 1 week, 624 (42.8%) patients for second follow up at 4 weeks and only 155 (10.6%) for third which was after 12 weeks. On average among all the best corrected visual acuity was good in 97.2%, borderline in 2.2% and poor in 0.6% patients (Table).

Complications encountered intraoperatively were

Table: Best corrected Visual Acuity at Follow Up.

Visual acuity	1 week	4 week	>12weeks	Mean
Good	860 (96.4%)	606 (97.1%)	152 (98.1%)	97.2%
Borderline	27 (3%)	15 (2.4%)	2 (1.3%)	2.2%
Poor	5 (0.6%)	3 (0.3%)	1 (0.6%)	0.6%

mainly posterior capsular rupture with vitreous loss, occurred in 70(4.8%) cases. With phacoemulsification technique partial zonular dehiscence occurred in 3(0.2%) cases but PC IOL was successfully implanted in the bag, posterior loss of cortical matter in 2(0.1%) cases and iris prolapse in 4(0.3%) patients.

Postoperatively 157 (10.7%) patients had striate keratopathy which resolved in 1-2 weeks.

After more than one month, complications seen were chronic anterior uveitis in 3 (0.2%) patients, corneal decompensation in 2 (0.1%) patients, IOL subluxation in 4 (0.3%) patients, choroidal and retinal detachment in 1 (0.06%) patient each. Posterior capsular opacification was seen in 40(2.7%) patients and were referred to tertiary care centre for Yag laser capsulotomy.

Discussion

The recording of follow up visual acuity and refraction was a difficult task because of inadequate assistance, failure to return for follow up of patients living far away and having good visual acuity. The follow up period varied from one month to one year postoperatively.

The surgical results in our study are comparable with Rahil Malik³ where rate of PC rent and vitreous loss was 5.7% and 3.0% respectively, similar incidence of 5.7% seen with Mahmood Alhassan⁴ and 5.4% in Finland⁵ while we had 4.8% incidence of PC rent with vitreous loss and because of vitreous loss were unable to implant IOL in 15(1.02%) cases.³

The incidence of striate keratopathy was 10.7% although high it is much lower than Mahmood B Alhassan⁴ and Finnish⁵ series where it was 44.6% and 53.6% respectively.

In our study it included cases of phacoemulsification during learning curve but in all cases oedema resolved with 2 weeks and patients regained the vision but it is responsible for borderline and poor vision in immediate postoperative period which is disturbing both to the patient and the surgeon.

Visual Outcome:

Based on WHO criteria for evaluation of outcome of cataract surgery, the final best corrected visual acuity in our study was good in 97.2%, borderline in 2.2% and poor in

0.6% patients. The audit done at Kikuyu Eye unit⁶ showed unaided VA of 6/18 or better in 73.1%, another study showed corrected VA 6/18 or better in 94.3% cases.⁷ In one study done at Lady Reading Hospital Peshawar showed uncorrected VA to be good in 39.2%, borderline in 29.7% and poor in 20.9% cases.³ Another study conducted at LRBT (Layton Rahamatulla Benevolent Trust), Lahore showed best corrected visual acuity to be good in 93% of eyes with IOL as compared to those who were left aphakic.⁸

Causes of poor outcome in our study were mainly selection and surgical complications, same seen in the study done at H.V. Desai Eye Hospital, India.⁹ Pre existing ocular pathology affecting the visual outcome in operated eye was corneal disease mainly old scar and degeneration (4.6%), retinal disease (4.5%), glaucoma (0.8%), old iritis (0.2%) and others (1.7%) including pseudoexfoliation. Surgical complications can be minimized by reassessing one's surgical skills, preoperative patient selection, evaluation and functional visual acuity can be achieved by proper management.

Conclusion

To conclude, clinical audit is a tool to measure quality, so as to ensure good surgical outcome.

In our study visual outcome achieved was comparable to standards set by WHO. In complicated cases functional vision can be achieved with timely management.

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