VISUAL OUTCOME OF CATARACT EXTRACTION WITH INTRAOCULAR LENS IMPLANTATION IN DAY CASES

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ABSTRACT

Objective: to determine visual outcome of the patients who had extracapsular cataract extraction with intraocular lens implantation as day cases.

Material and Methods: This prospective study was conducted at Khyber Institute of Ophthalmic Medical Sciences, Hayatabad Medical Complex in year 2002. Out of 214 day cases a total of 50 consecutive cases were selected for analysis who were followed-up for 2 months. A separate perfoma was used for every patient which included detailed history,preoperative assessmentant postoperative follow up.

Results: Of 50 patients, 30 (60%) were males and 20 (40%) were females. Their ages ranged between 45 and 80 years with mean age of 60.5 years. The best corrected visual acuity after two months was 6/6 - 6/12 in 85%, 6/18 - 6/36 in 13% and 6/60 and below in 2% of cases. Main complications included two cases of posterior capsular rupture and vitreous loss, one case of iris prolapse, one case of striate keratitis, one case of postoperative rise of intraocular pressure, one case of toxic reaction to intra ocular lens, two cases developed posterior capsular thickening.

Conclusion: Day case/ambulatory surgery should be promoted on priority basis and indoor surgery should be done only in selected cases.

Key Words: Cataract Ambulatory Surgery, Day Care Surgery, Visual outcome

INTRODUCTION

Cataract is the commonest age related eye disease in most countries worldwide[1]. There are approximately 45 million blind people in the world. At least 80% of these people live in developing countries and more than half are blind as result of cataract[2]. Pakistan with a total population of 130.5 million, the number of blind people is 2 million. Of these 1.3 million are estimated blind due to cataract[3]. By the year 2020 the elderly population of 60 years and above is expected to double from today's number, increasing the number of blind even more[4]. Some regions of the world have still high burden of cataract blindness that needs attention. Such areas need effective free outreach programmes[5]. There are no signs of reduction in the prevalence of cataract and hence in the prevalence of preventable blindness[6]. Cataract surgery has been showed to be one of the most effective of all public health interventions with cost per DALY (Disability adjusted life years) saved range from US dollars 15 to just over 30, placing it in one of the lowest bands[7].

MATERIAL AND METHODS

This prospective study was conducted at Khyber Institute of Ophthalmic Medical Sciences, Hayatabad Medical Complex in the year 2002 to determine visual outcome of 50 patients who had extracapsular cataract extraction with Intraocular lens implantation as Day Cases. All the patients underwent ophthalmologic evaluation before surgery. After screening patients with a visual acuity of less than 3/60 in the affected eye were selected for surgery. Biometry was done to calculate power of IOL. All patients were operated by extra capsular cataract extraction with intraocular lens implantation under the microscope. Patient's visual outcome and complications, if any, were recorded on the

1st postoperative day, after one week, after forty days and after two months. Sutures were removed after forty days. Postoperative refraction was done after 2 months and glasses were prescribed, if needed.

RESULTS

Out of 214 day cases a total of 50 patients with age-related cataract were included in the study. Their ages ranged from 45 to 80 years with mean age of 60.5 years. Of these 50 patients, 30 (60%) were males and 20 (40%) were females. Five patients were diabetic , two were hypertensive, one had ischemic heart disease and one had chronic obstructive airway disease. Routine extracapsular cataract extraction with intraocular lens implantation was performed on all patients. Large rent in posterior capsule and vitreous loss was observed in 2 cases. Posterior chamber IOL was implanted in 48 eyes, and anterior chamber intra ocular lens implantation was done in 2 patients. One patient had striate keratitis, one patient had iris prolapse which was reposited the next day. No patient developed postoperative endophthalmitis. Two patients developed posterior capsule opacification. One patient developed toxic reaction to Intra ocular Lens for which exchange of Intra ocular Lens was performed (Table 1).

Co-morbidity, like macular hole, retinal detachement and age-related macular degeneration was observed in none of the patient. Only two patients have advanced diabetic eye disease. Majority of the patients (85%) regained useful vision of 6/36 or above on the very 1st day after surgery. All patients were refracted after two months. After refraction, the best corrected visual acuity of 6/6-6/12 was achieved in 85% of cases, 13% had visual acuity of 6/36 and a poor visual acuity of 6/60 or less was noticed in 2% of the patients (Fig 1).

DISCUSSION

The quality of cataract surgery can be assessed by the postoperative vision in the operated eye. In our study all the patients were blind in the affected eye (visual acuity of less than 3/60). After surgery, 98% of the patients regained best corrected visual acuity of 6/36 or better. In a study conducted by Kapoor H et al in an Indian eye camp 94.8 % of the patients had a preoperative visual acuity less than 3/60 in the operated eye and 3.1% remained blind at discharge[8]. JK Shrestha in their study in an eye camp in Nepal noted that 56% of the patients were blind due to cataract preoperatively. After surgery and refraction, 47% of eyes had normal vision (better or equal to 6/18) and 19.3% had severe visual impairment (VA <6/60)[9]. The incidence of operative complications was within acceptable range and comparable to other such studies. Vitreous loss occurred in 4% of cases. Harprat Kapoor et al observed it in 6.1% of cases 8 while JK Shrestha reported it in 20.5% operated eyes[9]. Lewallin and Le Mesurier found a vitreous loss rate of 11% when they reviewed a large series of extracapsular cataract extraction performed in Malawi[10]. They concluded that, besides other factors, a higher incidence of vitreous loss in

Complications of Surgery

Complication	No. of Patients	Percentage
Rupture of posterior capsule and Vitreous loss	2	4
Posterior capsule thickening	2	4
Iris prolapse	1	2
Toxic reaction to Intraocular lens	1	2
Striate Keratitis	1	2
Post operative rise of intraocular pressure	1	2m

Table 1

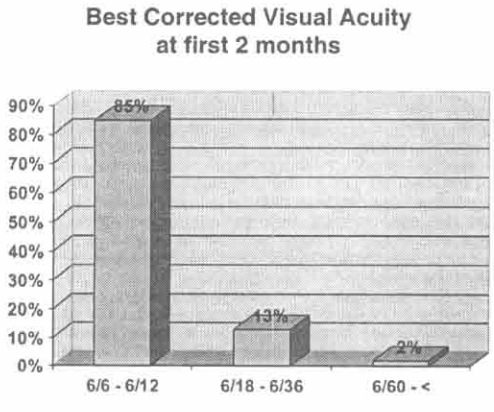

Figure 1

developing countries might be attributed to the differences in the type of cataract (Morgagnain and hypermature) in these countries compared with cataract in developed countries. The most frequent early postoperative complication was striate keratitis observed in 1 case. Harprat Kapoor et al found it in 8.4% of his ECCE cases[8] and Halepota et al observed it in 9.5 % of eyes in a review of 400 cases of IOL implantation[11]. In our study there was no case with endothelial decompensation. and subsequent bullous keratopathy. The incidence of this complication has been reported to be 0.1% to 1.0% in the literature. Morphologically eyes with decompensated cornea reveal degeneration of endothelial cells, abnormal proliferation of posterior collagenous layer, and oedema of stroma and epithelium. Surviving endothelial cell area is less than 50%[12]. Residual cortical lens matter was not observed in our patients. Jehangir and Kadri mentioned it in 10% in their studies of 40 Pakistani patients after posterior chamber lens implantation[13]. Halepota et al noticed it in 3.75% of cases [95]. In our study postoperative high intraocular pressure was recorded in 1 (1%) patient which is consistent with the figures of Nisar and Durrani[14] and Hussain and Durrani[15] who reported it in 1% and 0.8% of their cases respectively. There was no case of endophthalmitis. In Harpreet Kapoor et al study it was 0.03% [92]. But Panezai also reported 1.0% incidence of endophthalmitis in his series of 100 cases[16]. Iris prolapse occurred in one patient which was successfully replaced. Nasir and Durrani encountered it in 2% of cases. Posterior capsule opacification (PCO) was the most frequent late postoperative complication observed in 2 eyes after three months. Extracapsular cataract extraction, even in the best surgical hands, gives a varying degree of PCO, occurring in 10% to 50% of cases[17]. In the Madurai IOL study obscuration of fundus was found in 8. 6% of cases, 0.5% of eyes had clinically significant PCO at one year follow-up which increased to 13.5% after 4 years[18]. Tobin et al in their series of 144 eyes with ECCE and posterior chamber IOL in Vietnam found some degree of PCO in 40% of eyes at one year follow-up; 40% eyes had clinically significant visual impairment due to PCO[19]. Shrestha reported an over 30% incidence of PCO in ECCE PC IOL patients examined after 2 years of surgery, 15% had marked blurring of fundus details giving significant visual impairment[9].The incidence of PCO is suggested to be high when the IOL is not implanted symmetrically in the capsular bag. In our study we attribute the high incidence of PCO to improper cleaning of posterior capsule during cortical lens matter wash. Due to the magnitude of this problem a lot of research is underway to minimize the rate of this complication. It is suggested that the PCO rate with acrylic IOLs is significantly less than either with silicon or PMMA[20] lenses. Primary posterior capsulorhexis is now tried during cataract surgery and IOL implantation even in adults and is considered to be safe [21]. None of the patient had cystoid macular oedema. Its incidence reported in the literature is 3-6%. Hussain and Durrani observed it in 0.2%[22] and Kapoor et al diagnosed clinically significant cystoid macular oedema in 0.05% of cases. The incidence of this complication is lower in extracapsular cataract extraction than in intracapsular cataract extraction. In our study Advanced Diabetic Retinopathy was the main cause for poor visual outcome.

CONCLUSION AND RECOMMENDATIONS

Age-related cataract is a leading blinding disease in this part of the world. Day case surgery is one of the modality adopted to treat the patients. Visual rehabilitation after cataract surgery in this study was reasonably good. This study suggests that Day case surgery has a role to reduce the burden of cataract blindness especially in areas where there is a shortage of available wards. The results suggest that Day case cataract surgery is comparable with surgery done in patients admitted in well equipped hospitals, and the incidence of complications is within acceptable limits.

Day case/ambulatory surgery should be promoted on priority basis and indoor surgery should be done only in selected cases. All the tertiary care hospital are required to have a protocol for cataract surgery as regards selection of day cases and indoor. This will definitely reduce the price of cataract surgery to a greater extent on part of the patient and increase the output on part of the hospital.

REFERENCES

1. Klein BE, Kleiin R, Moss SE. Change in visual acuity associated with cataract surgery. The Beaver Dam Eye Study. Ophthalmology 2000; 107: 231-4-.
2. World Health Organization. Available data on blindness. Geneva: WHO unpublished document WHO/PBL/87. 14, update 1987.
3. Memon SM. Prevalence and causes of blindness in Pakistan. J Pak Med Assoac 1992; 42: 196-8.
4. Minassian DC, Mehra V. 3.8 million blinded by cataract each year: Projections from the first epidemiological study of incidence of cataract blindness. Br J Ophthalmol 1990; 74: 341-3.
5. Robiu MM. Cataract blindness and barriers to uptake of cataract surgery in rural community of northern Nigeria. Br J Ophthalmol 2001; 85: 776-80.
6. Butt NH, Naeemullah, Riaz MA. Cataract backlog in Pakistan and possible control measures. Pak J Ophthalmol 1999; 15: 149-51.
7. RB Poster. Global Initiative ,The economic cases.Community Eye Health J 1998;11(27):44
8. Kapoor H, Chatterjee A, Daniel R, Foster A. Evaluation of visual outcome of cataract surgery in an Indian Eye Camp. Br J Ophthalmol 1999; 83: 343-6.
9. Shrestha JK, Pradhan YM, Snellingen T. Outcomes of extracapsular surgery in eye camps of eastern Nepal. Br J Ophthalmol 2001; 85: 648-52.
10. Lewallen S, LeMesurier RT. Extracapsular cataract extraction in developing countries. Arch Ophthalmol 1993; 111: 18.
11. Halepota FM, Dahri GR, Anjum N, Complication of IOL implantation: Review of 400 cases. Pak J Ophthalmol 1995; 11: 109-12.
12. Liu GT. Histopathological study of pseudophakic bullous keratopathy developing after anterior chamber or iris supported intracoular lens implantation. Jpn J Ophthalmol 1993; 37 (4): 414-25.
13. Jahangir S, Kadri WM. Extracapular cataract extraction with intraocular lens implantation in Pakistan. Pak J Ophthalmol 1988; 4:80-2.
14. Hussain M, Durrani J. Intraocular lens implantation: A review of 2527 eyes. Pak J Ophthalmol 1995; 11: 103-8.
15. Panezai MN. Extracapsular cataract extraction with posterior chamber IOL implantation at Helper's Eye Hospital, Quetta. Pak J Ophthalmol 1993; 9: 92-3.
16. Apple DJ, Soloman KD, Tetz MR. Major review: Posterior capsule opacification. Surv Ophthalmol 1992; 37: 73-116.
17. Pranja NV, Ellwein LB, Selvaraj S. The Madurai intraocular lens study IV: Posterior capsule opacification. Am J Ophthalmol 2000; 130: 304-9.
18. Tobin S, Nguyen QD, Pham B. Extracapsular cataract surgery in Vietnam: A 1 year follow-up study. Aust-NZ Ophthalmol 1998; 26: 13-17.
19. Demong TT, Yashida K. Evolution of soft (foldable) IOLs in relation of PMMA lenses. Ophthal Pract 1996; 2: 61-4.
20. Galand A, Vancauwenberge F, Moosayi J. Posterior capsulorhexis in adult eyes with intact and clear capsule. J Cataract Refract Surg 1996; 22 (4): 458-61.
21. Krawicz T. Intracapsular extraction of intumescent cataract by application of low temperature. Br J Ophthalmol 1961: 45: 279-83.
22. Nisar A, Durrani J. Causes of failure of visual rehabilitation in pseudophakic patients. A review of 100 cases. Pak J Ophthalmol 1998; 12: 52-7.

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