CATARACT;

Day care surgery.

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ABSTRACT… Introduction: Cataract is the most age related eye disease in most countries. Day care cataract surgery has increased rapidly, largely because of new surgical techniques **Objectives:** To evaluate visual acuity and complications in patients having extracapsular cataract extraction with intraocular lens implantation on day care basis. **Design:** Prospective study. Setting: Department of Ophthalmology Independent University Hospital, Faisalabad. **Period:** June 2009 t0 June 2012. **Materials and Methods**: Cataract patients who were operated on day care basis. **Result:** During study period total 130 cases of senile cataract were operated on day care basis. Their ages ranged from 38 years to 110 years with mean age of 70 years. Of these 130 cases 52(40%) were males and 78(60%) were females. During surgery routine extracapsuler cataract extraction with lens implantation was performed on all patients. Posterior capsular rent occurred in 6(4.6%) cases during surgery. Posterior chamber IOL was implanted in 124 cases and anterior chamber IOL was implanted in 6 cases. Regarding post operative complications 4(3.07%) cases reported with endophthalmitis.While 10(7.6%) patients had striate keratopathy and 6(4.6%) patients had residual lens matter. Iris prolapsed observed in 4(4.6%) cases which was reposited on next day. Only 2(1.5%) patients later on developed posterior capsular opacification.cystiod macular edema was noted in two patients (1.5%).Majority of patients(80.7%) regained useful vision of 6/36 or above on first post operative day. All patients were refracted after two months. After refraction the best corrected visual acuity of 6/6-6/12 was achieved in 80.7% of cases,15.3% had visual acuity of 6/18-6/36 and poor visual acuity of 6/60 or less was noted in only 3.8% patients. **Conclusions:** Day surgery is one of modality to treat age related cataract. This study show that clinical outcome is not effected by outpatient surgery and there was no any complication that could be attributed to day surgery. So day surgery should be done on priority basis especially by experts surgeons and in patients surgery should be done only in selected cases.

Key words: Day care surgery, Amulatory cataract surgery

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INTRODUCTION

Day care cataract surgery has increased rapidly, largely because of new surgical techniques and because increasing numbers of elderly patients and increased service and procedural costs have led to a change from inpatient to outpatient hospital admissions. Advances in techniques of local regional anesthesia and surgery permit today the frequent use of ambulatory treatment in cataract surgery. This method seems to be well accepted by patients.

The first randomised trial on day care cataract surgery was reported by Galin and associates[1]. In the U.K. Mehta first reported day surgery in a selected group of 32 patients who underwent simple cataract extractions as well as cataract extractions combined with trabeculectomy or iris-clip implant insertion[2]. The visual results and postoperative complications following day case cataract surgery are not significantly different from cataract surgery in hospitalised patients.

Cataract is the most age related eye disease in most countries[3]. There are approximately 45 million blind people in world. At least 80% of these living in developing countries and more than half are blind as result of cataract[4]. Some regions of world including Pakistan have high burden of cataract induced blindness that needs effective free out reach programmes and cataract surgery on day basis[5].

With recent advances in anesthetic drugs and techniques, the safety and advantages of day-case surgery such as lower cost, lower rates of hospital-

acquired infection, less patient anxiety, and greater convenience have been well-established[6,7].

Surgical procedures which are suitable for day-case surgery are commonly undertaken as inpatient procedures, despite the availability of day-case surgery set-ups in both public and private hospitals.

The unpopularity of day-case surgery locally has been attributed mainly to surgeons. Evidently, in some instances, surgeons are reluctant to make the necessary changes to their traditional practice, whereby most patients having surgery are admitted to hospital[8].

Preferably, experienced surgeons should perform day-case surgery, so as to minimise the risk of complications and avoid hospital admission. In Pakistan public hospitals, trainees or junior surgeons are often the main doctors undertaking procedures suitable for day-case operations, as these types of procedures tend to be less complex and therefore least attractive to specialist surgeons. It is therefore possible that such day-case surgery practices in Pakistan gave rise to unfavorable complication rates and hospital admissions, which conceivably led to its unpopularity. In the current economic climate of limited health care resources, day-case surgery may be an area for future development in local services.

Various studies conducted for day surgery showed that Important reasons in patients who prefer day surgery includes shorter duration of hospitalisation, dislike of hospital environments, belief that hospitals are highly infectious, need to look after their families, desire to return to work early and doctors advice. Small home environments and belief that day-case surgery was unsafe were not important. Patients who did not prefer day-case surgery stressed the importance of better care available for hospital in-patients, concerns about surgical complications, postoperative nausea and vomiting, and doctors advice[9,10].

Objectives

To evaluate visual acuity and complications in patients having extracapsular cataract extraction with intraocular lens implantation on day care basis.

MATERIALS AND METHODS

This prospective study was carried out in department of ophthalmology independent university hospital Faisal abad from June 2009 t0 June 2012 in cataract patients who were operated on day care basis. The population living in catchment area of this hospital mostly belonging to low socioeconomic area and most of patients came hospital when they have very poor visual acuity. Different reasons include for preferring day surgery include low cost of surgery, Electricity shutdown problems, extreme of temperature and non affordability to other expenses in case of stay in hospital. In all such patients of day surgery their medical history, general examination, eye examination, keratometry and an A scan was done a day before surgery or on day of surgery.

Patients are excluded from this option of day surgery if they have uncontrolled diabetes, hypertention or on Aspiron/warfarin,or not willing for day surgery. Similarly as day case cataract surgery is performed under local anesthesia, therefore, very deaf, the demented, and those who may need general anesthesia were also excluded.

Then the date for operation was given once consent has been taken. Topical antibiotics eye drops as a premeditation was given to those having surgery on day basis on next day under local anesthesia. On the day of operation they are admitted on to the day ward having taken a light breakfast and their routine medication. Preoperative dilating drops are insillted. They are taken on a trolley to the main theatre suite and peribulbar anesthesia with facial nerve block is given in the anesthetic room. No intravenous sedation is given. After operation the patients are taken back to the ward

to be collected by their relatives or friends.

During the period of this study the operations were performed by the consultants and senior registrar, using a standard extracapsular technique and lens implantation. Extracapsular cataract extractions with IOL implantation were carried out by limbal section. Corneal sections were implemented in patients who had mechanical factors (like a filtration bleb from previous glaucoma surgery or prominent limbal vessels with bleeding tendency) that contra-indicated a limbal section. On completion of the operation, all patients were given subconjunctival injection of Gentamicin and dexametasone.. Topical antibiotic eye ointments were instilled and a eye shield was applied as the sole dressing. Day cases were allowed home between I and 3 hours post-operatively. All patients were given Acetozolamide 250mg two tablets satat and oral antibiotics along with analgesic on twice daily for three days.

The patients are requested to return to the eye clinic the following morning for the first dressing.

After slit-lamp examination they are given their postoperative topical antibiotics and steroids drops to take home. The first dressing and subsequent visits of the patients were as follows:

1st Visit at 2nd postoperative day for first dressing; 7th postoperative day, 4 weeks and then at 8 weeks intervals after that.

RESULT

During study period total 130 cases of senile cataract were operated on day care basis. Their ages ranged from 38 years to 110 years with mean age of 70 years.

Of these 130 cases 52(40%) were males and 78(60%) were females(fig-1). During history, twenty patients were diabetics, fifteen were hypertensive, five were both hypertensive and diabetics. While history of ischemic heart disease in two patients and chronic obstructive airway disease was present in eight patients.

During surgery routine extracapsular cataract extraction with lens implantation was performed on all patients. Posterior capsular rent occurred in 6(4.6%) cases during surgery. Posterior chamber IOL was implanted in 124 cases and anterior chamber IOL was implanted in 6 cases.

Regarding post operative complications(Table-I) 4(3.07%) cases reported with endophthalmitis.While 10(7.6%) patients had striate keratopathy and 6(4.6%) patients had residual lens matter. Iris prolapsed observed in 4(4.6%) cases which was reposited on next day. Only 2(1.5%) patients later on developed posterior capsular opacification, cystiod macular edema was noted in two patients(1.5%).

Complications	No. of patients	%age
Posterior capsule rent	6	4.6%
Endophthalmitis	4	3.07%
Striate keratopathy	10	7.6%
Iris prolapse	4	4.6%
Residual lens matter	6	4.6%
Posterior capsule opacification	2	1.5%
Cystoid macular edema	2	1.5%

Table-I. Complications of surgery

Co-morbidity like macular hole, retinal detachement, pseudophakic glaucoma was observed in none of the patients. However four patients showed advanced diabetic retinopathy after surgery.

Majority of patients(80.7%) regained useful vision of 6/36 or above on first post operative day. All patients were refracted after two months. After refraction the

best corrected visual acuity of 6/6-6/12 was achieved in 80.7% of cases,15.3% had visual acuity of 6/18-6/36 and poor visual acuity of 6/60 or less was noted in only 3.8% patients.(fig-2).

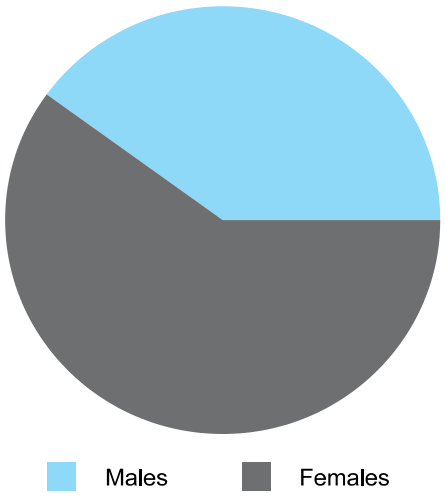

Figure-1. Sex wise distribution of patients

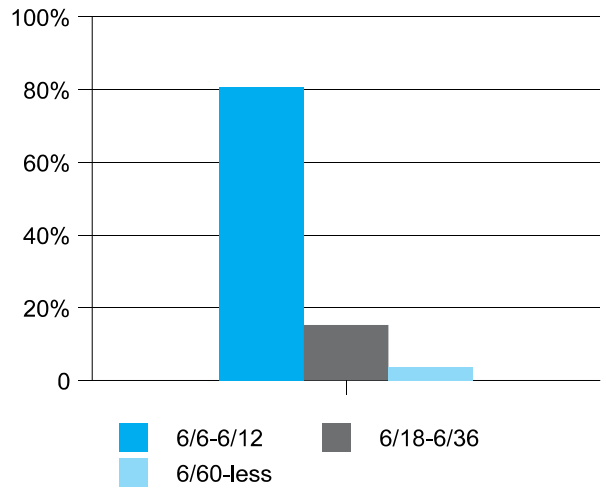

Figure-2. Percentage of visual acuity after surgery

DISCUSSION

Internationally, there is an increasing diffusion of day surgery, especially for ophthalmic surgical procedures. In the USA, more than 2,200,000 cataract surgery procedures are performed annually on an ambulatory basis and similar trends have been observed in many other countries by studies such as the International Association for Ambulatory Surgery (IAAS)[11].

After this study three different things that were observed are, firstly that the visual results were almost identical, secondly that there was no different in the nature, frequency and severity of complications and lastly that there was no complication that could be attributed to day surgery or to immediate and un restricted postoperative activity both in the day cases and in-patients.

It is not generally known that in the U.S.A., between 1908 and 1915, Bruns performed 232 entirely unselected" day case cataract extractions. His incidence of complications in these day cases was 3% lower than that in his 371 cataract extractions managed as in-patients Jervey reported on his own over 450 day case cataracts[12]. He concluded that hospitalisation of patients neither prevented complications nor insured better care provided day case cataract surgery was based on "on a very secure wound". He used corneal sections and 3 to 5 sutures of 7-0 Silk. This study recruited patients of both sexes, with a wide spectrum of ages and education levels and undergoing a range of different types of surgery.

In this study the incidence of operative complications was within acceptable range and comparable to other such studies.

In this study posterior capsule rupture with vitreous loss occurred in 4.6% cases.Harprat Kapoor et al observed in 6.1% cases[13]. While Paracha Q reported vitreous loss in in 4.8% cases in his study[14]. While Jk Shresta reported it in 20.5% of operated eyes[15]. They concluded that besides other factors a higher incidence of vitreous loss in developing countries might be attributable to difference in type of cataract like morgagian or hypermature cataract as compared

to developed countries. Residual lens matter was observed in 4.6% of cases in this study.Jahengir and Kadri mentioned it in 10% in their study of 40 pakistani patients after posterior chamber lens implantation[16].

In this study 4(3.07%) cases developed postoperative endophthalmitis while Panezai reported it 1% incidence of postoperative endophthalmitis[17]. The incidence of endophthalmitis after cataract surgery was 0.06% in a study conducted by Sheng Y[18].

Iris prolapse can result from inadequate wound closure, accidental trauma or raised intraocular pressure. Postoperatively, the iris tissue may be found in the wound with or without a shallow anterior chamber and a peaked pupil.In this study Iris prolapsed was noted in 4.6% cases which was successfully replaced.while study of Nasir and Durrani encountered it in 2% of cases[19].

Cystoid macular oedema occurs as a result of leakage of fluid into the macula from perifoveal retinal capillaries. Our two(1.5%) patients developed cystiod macular edema. Various authors had reported approximately a 1% incidence of clinical cystoid macular oedema following ECCE with posterior chamber IOL implantation.The study of kapoor et reported cystiod maculer edema in 0.05% cases[13]. Most investigators agree that inflammation is the major etiologic factor in the development of CME following cataract surgery[20]. In this study one major cause of poor vision was advanced diabetic retinopathy especially in patients who had long standing history of diabetes mellitus.

Thickened posterior capsule is a common cause of decreased vision following cataract surgery. The decrease in visual acuity is more with proliferation of epithelial cells (Elschnig's pearls) than with fibrosis of the capsule. Posterior capsular opacification was observed in 1.5% cases on fellow-up of patients. Similarly Paracha Q observed PCO in 2.7 % cases[14]. While Shrestha reported 30% incidence of PCO in ECCE with IOL examined after 2 years of surgery[15]. The incidence of PCO is suggested to be high when IOL is not implanted symmetrically in capsular bag. One study show that PCO rate with acrylic IOL is less than either silicone or PMMA IOL[21]. Similarly study conducted by Saeed MU et al showed that Posterior capsular opacification (PCO) as determined by slit-lamp examination was 40% for the hydrophilic IOL and 8% for the contra-lateral eye (hydrophobic IOL)[22].

Postoperative vision in operated eye is one way to be assessed the quality of cataract surgery. In this study most of patients had visual acuity counting fingers or less preoperatively. But after surgery about 96% of patients regained best corrected visual acuity of 6/36 or better. While study conducted by Kapoor H et al on Indian camp observed that 94.8% of patients had preoperative visual acuity less than 3/60 in operated eye and 3.1% remained blind at discharge. 13Similarly Jk Shresta in their study in an eye camp in Nepal reported that 56% of patients were blind due to cataract preoperative. After surgery and refraction 47% of eyes had normal vision(better or equal to 6/18) and 19.3 had severe visual impairment (visual acuity less than 6/60)[15].

CONCLUSIONS

Day surgery is one of modality to treat age related cataract. This study show that clinical outcome is not effected by outpatient surgery and there was no any complication that could be attributed to day surgery. Visual rehabilitation and postoperative complications in patients operated on day care basis are within acceptable limits. So day surgery should be done on priority basis especially by experts surgeons and in patients surgery should be done only in selected cases. This will definitely reduce price of cataract surgery for poor patients as well as helpful in reducing cataract induced blindness in low socioeconomic areas.

REFERENCES

1. Galin, M.A. Bonium V, Obstbaum, S, and Glasser, M.Trans Ophthalmol Soc UK, 1975;95:4245.
2. Mehta, H.K. Trans Ophthalmol Soc Uk.1977; 97;117-23.
3. Klein BE, Kelin R, Moss SE. **Changes in visual acuity associated with cataract surgery. The beaver Dam eye study.** Ophthalmolgy 2000;107:231-4.
4. World health organization. available data on blindness. Geneva. who unpublished document WHO/PBL/87.14,update 1987.
5. Robbin MM. **Cataract blindness and barriers to uptake of cataract surgery in rural communities of Nigeria.** Br.Jr. ophthalmol 2001;85:776-80.
6. Audit commission. **A shortcut to better services: day surgery in England and Wales.** London: HMSO; 1990.
7. Poole EL. **Ambulatory surgery: the growth of an industry.** J Perianesth Nurs 1999;14:201-6.
8. Alexander-Williams J. **Arguments for day case surgery.** Practitioner 1996;240:152-60.
9. Davies PD, Limacher E, Powell K. **Outpatient cataract surgery 1982–1986.** Eye. 1987;1:728–734.
10. Tong D, Chung F, Wong D. **Predictive factors in global and anesthesia satisfaction in ambulatory surgical patients.** Anesthesiology 1997;87:856-64.
11. **International Association for Ambulatory Surgery – Council of Presidents Foundation and early history of the international association for ambulatory surgery 1995–2001.** Ambulatory Surgery. 2001;9:125–126.
12. Jervey, J.W. 1971; Trans Am Ophthalmol Soc 69:263-67.
13. 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.
14. Paracha Q. **Cataract surgery at Marie Adelaide Leprosy Centre Karachi: an audit.** Pak Med Assoc.2011 Jul;61(7):688-90.
15. Shrestha JK, Paradan YM, Snelling T. **Outcomes of ectracapsular surgery in eye camps of eastern Nepal.** Br. J. Ophthalmol 2001;85:648-52.
16. Jahangir S,Kadri WN. **Extracapsuler cataract extraction with IOL implantation in Pakistan.** Pak J Ophthalmol 1988;4:80-2.
17. Panezia MN. **Extracapsuler cataract extraction with posterior chmber IOL implantation at Helper eye Hospital Quetta.** Pak J Ophthalmol.1999;9:92-3.
18. Sheng Y, Sun W, Gu Y, Lou J, Liu W. **Endophthalmitis after cataract surgery in China, 1995-2009.** J Cataract Refract Surg. 2011 Sep;37(9):1715-22.
19. 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.
20. Kraff MC, Sanders DR, Jampol LM, et al. **Prophylaxis of pseudophakic cystoid macular edema with topical indomethacin.** Ophthalmology 1982;9:885-890.
21. Gland A. Vancanwenberge F, Moosay I. **Posterior capsulerrhexis in adult eyes with intact and clear capsule.** J cataract Refract surg 1996;22: 458-61.
22. Saeed MU, Jafree AJ, Saeed MS, Zia R, Sheikh IM, Heravi M. **Intraocular lens and capsule opacification with hydrophilic and hydrophobic acrylic materials.** Semin Ophthalmol. 2012 Jan-Mar;27(1-2):15-8.

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