Outcomes and experience of same-day bilateral cataract surgeries in 30 patients

K. Anastasilakis

Abstract

Purpose: Same-day bilateral cataract surgery is becoming a worldwide trend. We present our experience and outcomes after performing simultaneous cataract surgery in 30 patients.

Patients and method: Patients with bilateral cataracts were assessed preoperatively and after being fully informed about pros and cons, consented in same-day procedures.

Results: Preoperative BCVA (mean ± SD) was 0,39 ± 0,23 while postoperative BCVA was 0,89 ±0,16 in both eyes. Mean lens sclerosis was 3,95 ±0,95 and mean spherical equivalent was -0,18 ±0,37 in both eyes. One posterior capsule rupture (in a patient with dementia) was managed intraoperatively without vitreous loss.

Conclusion: Same-day bilateral cataract surgery seems to have many advantages such as fewer medical visits, rapid rehabilitation and reduced medical fees. Though there are still many objections, no study has shown that it is an unsafe procedure. Careful patient selection along with a strict sterilization protocol with complete separation of the eyes are unbreakable rules for a successful outcome.

Key words: cataract, bilateral cataract, lens, simultaneous surgery, phacoemulsification.

Corresponding author: K. Anastasilakis
e-mail: anaskos6567@hotmail.com

Introduction

Rapid advancement of surgical technique for cataract extraction in the past decades has resulted in significant reduction of complications and postoperative infections. Along with successful outcome, eye surgeons aim in maximizing the effectiveness of these procedures. Clear corneal incisions and torsional phacoemulsification are essential steps towards this direction.

In order to accomplish maximum effectiveness, many eye surgeons perform same-day bilateral phacoemulsification. This technique has been a common topic of discussions and controversies. As an inviolable rule, this technique needs to be performed under strictly sterile conditions with complete surgical separation of the right and left eye. Furthermore, both the surgeon and the patient should be prepared for a possible postponement of second eye's procedure in case of serious intraoperative complications in the first eye.

The observed unilateral complications seem to occur in a comparable frequency to those observed in one-at-a-time surgeries, while the bilateral complications are scarce. In specific, bilateral endophthalmitis – which is considered to be the most dreaded complication of all- has been reported in just 4 patients since 1978. In all cases, errors in surgical technique were identified as causative factors.

Furthermore, both rapid rehabilitation of stereoscopic vision and visual field, suggesting an immediate come-back in everyday activities and economic benefits for the patient and the health system are main advantages of the technique

and should not be disregarded.[1,2]

The purpose of this study is to present the outcomes and our experience after performing same-day bilateral cataract surgery in 30 patients.

Patients and method

The study population consisted of 30 patients with bilateral cataract that underwent cataract surgery from January 2013 to March 2014.

High risk patients such as patients that were preoperatively diagnosed with significant corneal pathology (Fuchs endothelial dystrophy, corneal scars), lenticular abnormalities (lens subluxation, hypermature cataract) or retinal diseases (severe diabetic retinopathy, extensive peripheral retinal lesions, high myopia, previous vitrectomy) were excluded from the study. Additional exclusion criterion was the increased risk of postoperative infection due to predisposing ophthalmic or systematic conditions. Finally patients with tremor, anxiety or poor cooperation (dementia, Down syndrome) were either excluded or were operated under general anesthesia.

An informed consent was obtained by all patients after they were fully and in detail informed about the advantages and disadvantages of a same-day bilateral procedure.

Best corrected visual acuity was recorded in all patients up to 4 weeks preoperatively using a Snellen chart. Visual acuity was also measured at first day, first month and third month postoperatively.

Lens opacity was recorded preoperatively at the slit lamp examination using the Lens Opacities Classification System (L.O.C.S. III).

All patients underwent standard phacoemulsification procedure using the Infiniti phacoemulsification system (Alcon Inc.). All surgeries were performed by the same experienced surgeon. Under topical anesthesia with proxymetacaine the following steps were performed: clear corneal incision 2.2mm at the most curved axis, continuous curvilinear capsulorrhexis, cortical hydrodissection and hydrodelination as per Fine, stop and chop technique for the removal of the nucleus with torsional phacoemulsification, aspiration of cortical soft material and implantation of folded acrylic hydrophobic intraocular lens.

Postoperative care included topical gt moxifloxacin qds for 2 weeks, gt loteprednol qds for 1 month and gt nepafenac tds for 1 month.

Results

Preoperative BCVA (mean ± SD) was 0,39 ± 0,23 while postoperative BCVA was 0,89 ±0,16 in both eyes. Mean lens sclerosis was 3,95 ±0,95 and mean spherical equivalent was -0,18 ±0,37 in both eyes. One posterior capsule rupture (in a patient with dementia) was managed intraoperatively without vitreous loss.

Discussion

Same day bilateral cataract surgery is offering certain advantages. Patients that choose this option are enjoying immediate rehabilitation of visual function (binocular vision, visual field etc) while those that undergo unilateral surgery might experience a disruption of binocular vision that may last up to 4 months after the operation of the second eye and therefore the latter may find difficulties in performing daily activities at the interprocedural period. Simultaneous bilateral surgery avoids postoperative anisometropia and achieves more accurate prediction of postoperative refraction in cases of high ametropia. Additionally, this technique facilitates neuroadaptation in cases of presbyopic correction either with monovision or multifocal intraocular lenses.[3-5]

Same day bilateral surgeries reduce the number of postoperative examinations and therefore the cost and fatigue of patients and their companions.[4] This can accommodate patients of old age or with mobility problems and freelancers with limited free time. Also, patients that need to be operated under general anesthesia or to discontinue medication for systemic diseases (anticoagulants, a1 adrenergic antagonists etc) benefit from this technique.

On the other hand, possible bilateral complications (cystoid macular edema, retinal detachment, endophthalmitis, bullous keratopathy, etc), are rarely reported in literature, being usually the result of less careful patient choice, false surgical technique or sterilization missteps.[6-10] Application of a strict sterilization protocol of surgical instruments, complete surgical separation of the eyes, usage of intracameral antibiotics and exclusion of high-risk patients can minimize the incidence of complications.

Conclusion

Same-day bilateral cataract surgery is performed in an increasing frequency and becomes an acceptable technique, even if it is still a topic of debate for ophthalmic surgeons.[6] Evolution of surgical technique and technology the past decades has resulted in rapid rehabilitation of patients and a significant decrease of the incidence of serious complications.

In this frame, same-day bilateral surgery has a direct impact in quality of patients' life, increases the surgical effectiveness and reduces cost for both the patient and health

system. On the other hand possible complications do not seem to occur in an increased frequency compared to unilateral surgery and can be minimized when operations are performed with a strict surgical technique.

As for all medical procedures, same-day bilateral cataract surgery must be judged only on the basis of its benefit on patients health, especially since there is no solid evidence showing that it is not a safe procedure.

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