VISUAL OUTCOME IN SCLERAL FIXATED INTRAOCULAR LENSES

Devendra Saxena¹, Chaitali Patel²

¹Associate Professor, Department of Ophthalmology, Pramukhswami Medical College, Karamsad, Anand, Gujarat.

²Assistant Professor, Department of Ophthalmology, Pramukhswami Medical College, Karamsad, Anand, Gujarat.

ABSTRACT

OBJECTIVE

To find out visual outcome after sclera fixated intraocular lens implantation.

METHODS

25 patients from 2012 to 2014 who were referred after complicated cataract surgery or had traumatic aphakia leading to dislocated lens and had undergone secondary sclera fixated intraocular lens implantation at our institute by single surgeon under standard operative conditions.

RESULTS

Out of 25 patients, 16 patients had to undergo surgery secondary to cataract surgery related complications. 6 patients had traumatic dislocated lens. 3 patients had undergone previous intracapsular cataract extraction. 10 (40%) patients had final postoperative visual acuity between 6/12 and 6/9. 9 (36%) patients had visual acuity of 6/18 to 6/60. 6 (24 %) patients had visual acuity of <6/60. 19 patients (76%) had good visual outcome.

CONCLUSION

Scleral fixated IOL offer a good alternative for secondary IOL implantation. They are most closely related to natural position of lens as compared to anterior chamber IOL or iris claw lens. Visual outcome is good after sclera fixated IOL and if any posterior segment pathology develops in these patients. It can be managed easily, which is not possible in other secondary IOL's.

KEYWORDS

Scleral Fixated, IOL, Secondary IOL.

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INTRODUCTION

In the modern era of phacoemulsification and improved surgical instrumentation, cataract surgery has become one of the safest and gratifying surgical procedure with extreme expectations on part of the patient. They want a spectacle free postoperative outcome.

But, every surgery has its limitations and at times due to technical or structural problems it is not possible to implant IOL during primary procedure. In such patients, the option of secondary IOL in the form of Anterior Chamber IOL (AC-IOL), Iris claw lens, or sclera fixated IOL has to be implanted. AC-IOL and iris claw lens are preferred in view of ease of placement and shorter surgical time.⁽¹⁾ Scleral fixated IOL is the most physiological position for secondary IOL placement, but not preferred by many due to difficult technique and prolonged surgical time.

This study highlights the visual outcome after scleral fixated IOL along with the complications associated with the procedure.⁽²⁾

MATERIALS AND METHODS

The study comprised of 25 patients who had undergone scleral fixated IOL at retina clinic by single surgeon under standard operative conditions.

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Corresponding Author:

Dr. Devendra Saxena,

Associate Professor,

Department of Ophthalmology,

Vitreo-Retinal Consultant, PSMC, Karamsad,

Anand-388325, Gujarat.

E-mail: deekaysaxena@yahoo.com

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Their preoperative visual acuity on Snellen chart, anterior segment examination, Intraocular Pressure (IOP) by GAT (Goldmann Applanation tonometry), dilated fundus examination with indirect ophthalmoscope with peripheral indentation to rule out peripheral retinal breaks or retinal degenerations.

Preoperative keratometry was done to assess corneal astigmatism. IOL power for scleral fixated IOL was kept same as for PCIOL (PMMA lens with A-constant of 118.2). Polymethyl Methacrylate (PMMA) scleral fixated IOL with eyelets in the haptics were used. The two haptics were tied at 3 and 9 o'clock position 1 mm posterior to limbus with Prolene double-armed 10.0 suture^(3,4,5). Anterior vitrectomy was done in 15 cases and core vitrectomy was done in 10 cases who had dropped nucleus.

Anterior chamber maintainer was used during entire procedure and use of viscoelastic material was avoided.

Best corrected visual acuity (BCVA) on 1st postoperative day, one week and after 6 week was recorded.

Anterior segment examination and IOP was measured on each visit.

Patients were followed for one year to find out any late complications.

RESULT

Out of 25 patients 16 had undergone surgery secondary to cataract surgery related complications.

6 patients had traumatic dislocation of lens.

3 patients had primary ICCE surgery done outside.

Pre-Surgery

20 patient BCVA was less than 6/12.

5 patients BCVA 6/12 or better.

Post-Surgery

- 10 (40%) patients had BCVA of 6/12 to 6/9.
- 9 (36%) patients had BCVA of 6/18 to 6/60.
- 6 (24%) patients had BCVA of less than 6/60.
- 76% patients had good visual outcome (6/12-6/60) after scleral fixated IOL as compared to 86% in iris claw lens.
- 5 patients who had BCVA of less than 6/60 had associated corneal tear secondary to ocular trauma and had undergone corneal tear repair done. One patient had lens tilt with resulting astigmatism of 5 dioptres.
- Out of 25 patients, 13 were 70 yrs. or more.
- 16 were male and 9 were female (1.4:1).

DISCUSSION

In the modern era, cataract surgery has evolved leaps and bounds, but still every surgery has its limitations and in some cases due to unavoidable circumstances the surgeon is not able to put IOL after cataract surgery. It is a mental trauma for both the surgeon and the patient.

In such circumstances, patient has to undergo another surgery for secondary IOL implantation. Though, we have easy option of AC-IOL or iris claw lens we still prefer to put scleral fixated IOL.^(6,7)

Our study highlights the visual outcome after scleral fixated IOL. Postoperatively, nearly 40% patients had BCVA between 6/12 to 6/9 while preoperatively only 20% patient had BCVA of 6/12 or better.

Total 76% patients in scleral fixated IOL series had good visual outcome as compared to 86% in iris claw lens.⁽⁸⁾ The advantage of scleral fixated IOL is that any future posterior segment surgery can be done without risk of dislocation or malpositioning of IOL as may happen in iris claw lens.

The improvement in postoperative visual acuity is due to removal of inflammatory, haemorrhagic debris from vitreous along with any vitreous traction leading to macular oedema.

6 patients had BCVA of less than 6/60. 5 patients had undergone corneal tear repair prior to secondary lens implantation.

One patient had lens tilt leading to astigmatism of 5 dioptres.

None of the patient had suture erosion or late onset low grade uveitis on an average follow up of one year.

Scleral fixated IOL should be the preferred method of secondary IOL implantation as it most physiological in position as compared to AC-IOL or iris claw lens.^(9,10,11) Both lenses have disadvantage of corneal touch and loss of endothelium in long run and also secondary uveitis and glaucoma.⁽¹²⁾ Moreover, such complicated cataract surgery patients are prone to develop some retinal or posterior segment pathology in future and then it becomes easier to examine the posterior segment in scleral fixated IOL where pupil can be medically dilated while this is not possible with AC-IOL or iris claw lens.^(13,14)

Visual outcome in experienced hand is good enough and so it should become standard of care for secondary IOL implantation.

It needs a larger sample size and prolonged follow up to establish long-term safety and associated complications in scleral fixated IOL's.

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