

Clinical Study of ACIOL & Scleral Fixated PCIOL

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Introduction

Harold Ridley implanted the first intra ocular lens in 1949, it was an acrylic lens implanted in the capsular bag .

Anterior chamber lens can be broadly classified according to whether the haptics have an open loop or closed loop configuration and are rigid, flexible or semiflexible. The anterior chamber lenses may be vaulted or uniplanar.

Parry was the first person to describe suture fixation of PCIOL in 1954 by wire suturing of Ridley's posterior chamber lens.

Malbar in 1986 used a hollow needle to guide suture placement through the sclera during secondary insertion after ICCE

Materials and Method

The patients were divided into 2 groups.

Group-I Consisted of patients implanted with ACIOL, as a primary or secondary procedure.

Group-II Consisted of patients implanted with sulcus fixated (scleral fixated) IOLs, as primary or secondary procedure.

All the patients in group-I were implanted with ACIOL of optic size 5.5 mm diameter with 12.5 mm overall length.

All the patients in group-II were implanted with scleral fixated IOL's of optic size 6.5 mm with overall length of 13 mm. Its design was modified 'C' loop with eyelets for suture fixation. Sutures used were 10-0 prolene.

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Technique which was used in all the patients for SFIOL:

- Superior conjunctival peritomy.
- The corneo scleral section 7mm long.
- Lamellar scleral flaps 3mm high & 2mm wide were taken at 3'o clock & 9'o clock.
- The 10-0 prolene needle was initially inserted under the scleral flap, and this needle was brought out from opposite side of sclera with the help of 26 gauge needle and then inserted in a reverse manner. So that a suture loop was formed.
- This suture loop was brought outside the eye from the sclero corneal section, after cutting the suture loop, ends were tied on both the side of eyelet of IOL.
- The suture was locked under the scleral flap and passed through the eyelet on the haptic.
- The sutures were tied in their place under scleral flaps.

Results:

Best corrected visual out come after 4 weeks

	6/60	6/36	6/24	6/18	6/12	6/9	6/6
ACIOL (25 pt)	1	1	3	2	6	8	4
SFIOL (25 pt)	2	0	2	3	7	7	4

Complication	ACIOL (25 patient)	SFIOL (25 patient)
AC Reaction	Gr II to III in all cases	Gr II to III in all cases
Hyphema	1	0
Vitreous in AC	1	0
Pupillary membrane	1	1
Decentered IOL	1	2
IOL tilt	0	1
PAS	0	0
Vitreous hge	0	2
Vitritis	1	1
Iris Prolapse	2	0
Raised IOP	4	6
CME	1	2

Conclusion

Statistical analysis of various parameters was done. We found that post operative BCVA of almost 70% of the patients in both the groups was 6/12 or better. There was no significant difference in the visual outcome of cases in both the groups.

The early and late complications in both the groups were compared and no statistically significant differences were found between them.

The advantages of ACIOL are that, the surgical procedure is safe and fast and IOL's are easy to implant in the anterior chamber. ACIOL implantation is unsuitable in case with deficient endothelial cells, large sector iridectomy, PAS, and glaucoma.

SFIOL preserves corneal endothelium, minimizes aniseikonia and produce stable, longterm fixation of the IOL. It is implanted in the same plane as crystalline lens and doesn't interfere with pupil function and isoptically physiologic. Accuracy of needle placement in SFIOL implantation is difficult as it can't be visualized behind the iris.

It is time consuming and requires elaborate skill with aggressive intra-ocular manipulations.

Our analysis shows that, one procedure doesn't offer more safety than the other in terms of post –operative visual acuity and post operative complications. But long term comparison between both the techniques is required.

Careful pre-operative evaluation of the cornea, vitreous phase and retina will allow the selection of the optimum lens type.

SFIOLs, seem to be more appropriate in

young patients and in eyes with compromised cornea, shallow anterior chamber, PAS, glaucoma and lack of iris support

References

- 1) Apple D, Momalis, N Lotifield K. et al. Complications of intraocular lenses. A Historical and histopathological review. Surv.Ophthalmol. 1984.
- 2) Artemios Kadarakis, Konstatinos Douls. Penetrating Keratoplasty, and Transsclerally suture fixated IOL. Journal of Refractive Surgery. Vol. 12(2)Feb.1998.
- 3) Drolsum L, Hasskjold E. Secondary implantation of flexible open loop anterior chamber IOL's Acta Ophthalmol 1993; 71; 482-6.
- 4) Grehn F, sundmacher R. Fixation of Posterior chamber lenses by transscleral sutures; technique and preliminary results (letter). Arch Ophthalmol 1989; 107;954-5.
- 5) Kershner RM. Simple method of transscleral fixation of posterior chamber intraocular lens in the absence of lens capsule. J Refract Corneal Surg. 1994, 10:647-51.
- 6) Rattigan SM, Ellerton CR, Chitkara DK, Smerdon DL. Flexible Open-loop anterior chamber intraocular lens implantation after posterior capsule complications in extra capsular cataract extraction. J Cataract Refract Surg. 1996; 22:243-6.
- 7) Shammas HJF, Milkie CF. Secondary implantation of anterior chamber lenses. Am Intra-ocular implant Soc. J. 1983;9;313-6.
- 8) Uthoff D, Teichmann KD. Secondary implantation of Scleral- fixated intraocular lenses. J. Cataract Refract Surg.1998;24;945-50.



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