Original Research Article

Clinical Study of Secondary Intraocular Lens Implantation in Aphakic Patients

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Abstract

Introduction: Secondary implantation of a lens is insertion of a lens in any eye rendered aphakic by trauma or prior surgery. The subject of secondary IOL implantation is and will remain extremely important in developing countries for many decades to come. The reason in that a great majority of cataract operations were being performed without primary intraocular lens implantation. The result is that a large number of aphakic subjects still seek remedy for their aphakic disability. To analyse the visual outcome & complications following implantation of secondary intraocular lens implantation in aphakic patients.**Materials and methods:** This is a hospital based prospective clinical study conducted at K.V.G Medical College and Hospital, (Sullia, D.K) during the period of November 2014-May 2016, which included 50 monocular aphakia patients who presented to our outpatient department. These patients were treated surgically with secondary intraocular lens implantation by either of the three procedures.18 pts with ACIOL implantation, 16 pts for ICIOL implantation and remaining 16 for SFIOL implantation. These patients were followed up for a period of 3months post operatively and BCVA with Snellen's distance visual acuity chart was noted. Complications were also noted in the postoperative period.**Results:** BCVA (6/9 or more) was seen in 78% of all cases with 83.3% in ACIOL group,75% in SFIOL group and 75% in ICIOL group. Minor complications like striate keratopathy, corneal oedema and anterior uveitis was seen and subsided with treatment. Patient (8%) developed hyphema and increased IOP which resolved with treatment.2(4%) patient had persistent corneal oedema in spite of treatment 3 months post operatively and had BCVA of 6/24. 2(4%) patients developed cystoid macularedema for which topical corticosteroids plus NSAIDs like ketorolac 0.5% was given.2(4%) patients developed vitreous loss 1(2%) pt developed early decentration of intraocular lens for which immediate reposition of lens was done surgically and 3(6%)patients developed late decentration of lens thus reducing the visual acuity to 6/18. 3(6%) patients developed depigmentation of lens (ICIOL group) but it didn't affect the visual acuity much.**Conclusion:** Secondary intraocular lens implantation is a safe and effective method of correcting aphakia and avoids the disadvantages associated with aphakic spectacles and contact lens ACIOL, ICIOL, SFIOL implantations have comparable results as per post operative visual acuity and complications are concerned and each is good in its own sense as per our study Hence, secondary intra ocular lens implantation is a good surgical option for patients with aphakia seeking to overcome their aphakic disability.

Keywords: trauma, aphakia, hyphema. Secondary IOL, Iris claw.

Introduction

Secondary intraocular lens implantation is defined as insertion of an intraocular lens in to an eye which is rendered aphakic, either by previous cataract surgery or by an exchange intraocular lens. The subject of secondary intraocular lens implantation is and will remain important in developing countries for many years as majority of cataract operations were being performed without primary intraocular lens implantation. The result is that a large number of aphakic subjects still seek remedy for their aphakic disability[1].

Cataract is the commonest age related disease in most countries worldwide. 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 a result of cataract[2]. It is estimated that in India alone, more than 5.1 million patients undergo cataract surgery in a year[3].

There are a variety of cataract extraction methods, including phacoemulsification, extra capsular cataract extraction and intra capsular cataract extraction[4].

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The intracapsular method of cataract extraction was the preferred technique for nearly 50 years. However, the momentum shift towards ECCE probably began in 1967[5].In intracapsular cataract extraction (ICCE), the lens is removed along with the capsule and in Extra capsular cataract extraction (ECCE), posterior capsule is spared[6]. Since 1970, phacoemulsification and extra capsular cataract surgery have replaced intracapsular cataract, except for rare instances, such as subluxated lenses or eyes in which a question of patient sensitivity to lens material exists. However placement of a posterior chamber intraocular lens may not be possible in all eyes that undergo this procedure, due to unforeseen complications that may occur intraoperatively.Modern cataract surgery involves phacoemulsi-fication of the opacified crystalline lens and the implant of an intraocular lens (IOL) in the capsular bag. In some conditions this is not possible due to the type of cataract (e.g., traumatic cataracts with lens subluxation, cataracts in pseudoexfoliative syndrome with zonular/capsular dehiscence) or to systemic and congenital disorders characterized by weakness of zonules/capsule (e.g., familial or idiopathic ectopia lentis, Marfan syndrome, etc.) or to intraoperative complications (e.g., large breaks of the posterior capsule, accidental aspiration of the capsular bag, etc.) leaving the patient aphakic.Aphakia can be corrected by either spectacle lens, contact lens or intraocular lens. The thick aphakic lenses induce telescopic effects, aniseikonia and compromised depth perception and visual

field. Contact lenses are good alternative to thick and heavy aphakic glasses. A large field of vision and less peripheral image distortion is provided by contact lenses as they are closer to the pupil entrance.Aniseikonia resulting from anisometropia is minimized by contact lenses. Its best example is use of these lenses in monocular aphakia. Contact lens intolerance in cases of persons with physical disabilities like elderly individuals, people with tremors, Parkinsonism and other physical disabilities make handling and use of contact lens difficult. Regardless of the advantages, the thickness of these lenses greatly limit their gas transmissibility and corneal neovascularization is a common complication**.** An ethical and good solution to this problem is secondary intraocular lens implantation.

Various types of secondary intraocular lens are available

1. Anterior chamber intraocular lens (ACIOL)
2. Scleral fixated intraocular lens (SFIOL)
3. Iris fixated intraocular lens (IFIOL) using iris claw lens.

Aims and Objectives of Study

1. To evaluate the visual outcomes after secondary intraocular lens implantation.
2. To evaluate complications after secondary intraocular lens implantation.

Materials and Methods

This is a prospective study conducted between Nov 2014-May 2016 at K.VG Medical College, Sullia. During the above mentioned period a total of 50 cases were operated. All the 50 patients selected were aphakics.

50 patients fulfilling the selection criteria were included into the study and informed written consent was taken. They were randomly divided into Group1 (n=18) who would undergo secondary flexible ACIOL implantation, Group2 (n=16) would undergo scleral fixated PCIOL by abexterno technique and Group 3 (n=16) would undergo iris fixated intraocular lens implantation by IRIS CLAW lens.

Inclusion criteria

1. Patients with aphakia with posterior capsule rent / intracapsular cataract surgery.
2. Patients dissatisfied with visual rehabilitation obtained with aphakic spectacles.
3. Patients with aphakia requiring binocular vision and unable to tolerate contact lenses

Exclusion criteria

1. Any severe condition such as proliferative diabetic retinopathy, intolerable glaucoma, retinal detachment, intraocular tumor, recent ocular trauma, uveitis, central corneal opacity, optic atrophy.
2. Age related macular degeneration
3. Presence of ocular defects- micro-ophthalmos, aniridia, coloboma.
4. Systemic diseases like rheumatoid arthritis which predisposes eye to corneal melting.
5. Bleeding disorders.

Pre -operative evaluation

All the patients were admitted in the hospital one day prior to the surgery. All these patients underwent pre-operative evaluation and complete eye examination, including a thorough history.

Systemic examination was also done to rule out hypertension and diabetes mellitus and bronchial asthma.

Ocular examination and limbal white to white diameter was measured using slit lamp bio microscopy. Examination by both Heines direct and indirect ophthalmoscopy, intra ocular pressure recording using Schiotztonometry, visual acuity recording using Snellens E chart and Jaegers near vision chat. Keratometry by Bausch and Laumb keratometer, A scan biometry and IOL power calculation using the SRK-T formula using A constant of 118.3 was done.

Pre operative preparation

The day before the surgery and hours before the surgery one drop of ofloxacin eye drops hourly was instilled in the eye. Pre op constriction of the pupil was obtained by instilling 2% pilocarpine eye drops.

Procedure

Anaesthesia and akinesia of the eye ball was obtained with a peribulbar block of4ml mixture of 2% xylocaine with adrenaline, with addition of hyaluronidase with 2mlof 0.75% bupivacaine was used. Just before the start of the surgery, the skin around the eye was painted with 5 % povidine iodine and same drops was instilled topically.

Surgery

All the surgeries were performed using a ZEISS VISU 150 microscope.

ACIOL Implantation

The aim was to place the ACIOL in the anterior chamber with the foot plates resting against the scleral spur, without capturing any iris tissue or interfering with any existing iridectomies. With these factors in mind, ACIOL were placed horizontally through a temporal corneal or sclerocorneal incision.

1. A horizontal white-to-white limbal measurement was made to avoid a large discrepancy between the angle size and the IOL size. (IOL diameter should be 1mm greater than the above measurement)
2. A grooved incision was made at the temporal region
3. A stab incision was made and anterior vitrectomy was performed using Vannas anterior vitrector if vitreous was present.
4. Intra cameral pilocarpine if required, was injected followed by viscoelastic
5. The incision was enlarged
6. The ACIOL was then inserted over this glide, taking care to avoid catching iris tissue.
7. The glide was removed, and the proximal haptic was passed behind the edge of the incision to lie in the proximal angle
8. A peripheral iridectomy was performed
9. Viscoelastic was removed, and the wound was closed.
10. Patient was given subconjunctival injection of gentamycin and dexamethasone.

Sclera fixated PCIOL

This was done using the AB EXTERNO TWO-POINT FIXATION technique.

1. A superior conjunctival peritomy was fashioned from 4 to 10 o‘clock
2. Triangular scleral flaps 3 mm high by 2 mm wide were fashioned at 4 and10o‘clock
3. A 7-mm corneoscleral wound was made followed by anterior vitrectomy
4. A straight needle attached to a 10-0 polypropylene suture was passed through the bed of a scleral flap 1.5 mm posterior to the limbus in a direction parallel to the iris, until its tip was visualized through the pupil
5. A 28-G hollow needle was passed through the opposite scleral bed was used to retrieve the straight needle, via its barrel
6. The hollow needle was withdrawn from the eye, leaving the 10-0 polypropylene suture traversing the eye from one scleral bed to the other.
7. A Sinskey hook was used to pull out a loop of this suture out through the superior corneo scleral wound
8. This loop was cut, with one end tied to the superior haptic and the other to the inferior haptic of the IOL
9. The IOL was inserted into the ciliary sulcus and the sutures gently pulled to secure
1. the position of the lens
10. A second 10-0 polypropylene suture was used to take a bite just anterior to the original suture‘s exit point within a prepared sclera bed. The long end of the second polypropylene suture was tied to both its short end and the lens-fixing suture.
11. This was repeated at the other scleral bed

12. The scleral flaps and conjunctival peritomy were closed.
13. Patient was given subconjunctival injection of gentamycin and dexamethasone.

IRIS CLAW IOL Implantation

1. Superior or temporal, 5.5 mm sclero corneal/clear corneal incision is made.
2. Two paracentesis are made 90º from the main section.
3. Intra cameral pilocarpine is injected to constrict pupil.
4. Iris claw IOL is introduced into the anterior chamber through main section.
5. Viscoelastic (2% HPMC) is injected at each stage to deepen the anterior chamber and maintain space
6. Holding the optic with a lens forceps, one haptic is tilted down and pushed under the iris with gentle manipulation.
7. Simultaneously a Sinskey hook is passed through the paracentesis on the same side.
8. Once the haptic of the IOL is behind the iris, the haptic is tilted up to produce an indent on the iris.
9. The iris is enclavated into the haptic claw with gentle push with the sinskey hook
10. Then with similar maneuver the other haptic enclavation is done.
11. Viscoelastic is aspirated with simcoe cannula, anterior chamber is formed with BSS and conjunctiva reposited.
12. Patient was given subconjunctival injection of gentamycin and dexamethasone.

Post-operative evaluation

On the first post-operative day, all the patients were submitted to detailed slit lamp examination and fundus examination. Visual acuity was recorded. The patients were discharged on the second day or third post-operative day. On discharge all patients were put on corticosteroid+antibiotic combination eye drops 6-8 times per day, which was then tapered over a period of 6 weeks. The patients were asked to come for review on the 1st week, 3rd week and 3rd month from the date of surgery. Visual acuity was recorded on every visit. PhotoFigs were taken in selected cases. At all the subsequent visits, patients were subjected to the following examinations; Slit lamp examination Fundus examination Visual acuity recording.

Analysis of results

In this study, a comparative analysis between Flexible ACIOL, Scleral fixated PCIOL, and Iris claw IOL for post operative best corrected visual acuity, early and late complications like corneal oedema, hyphema, corneal decompensation, cystoid macularoedema, suture erosion, decentration were evaluated and compared for a period of three months.

Results

A total of 50 eyes with aphakia were subjected to secondary intraocular lens implantation. They have randomly undergone three different procedures for secondary IOL implantation i.e ACIOL, ICIOL, SFIOL implantation.

Table 1: Types of Surgeries

	No of patients	%
ACIOL	18	36
ICIOL	16	32
SFIOL	16	32
Total	50	100

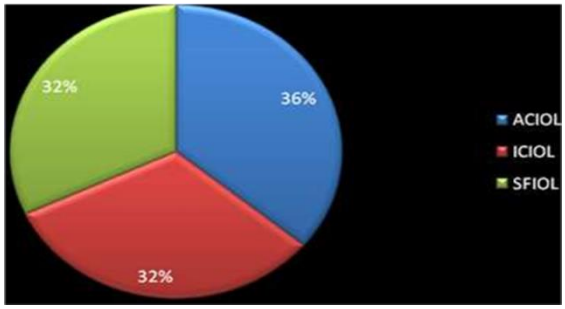

Fig 1: Types of surger

Age Distribution

The mean age of the patients with secondary ACIOL implantation was 62, with secondary SFIOL implantation was 67 and with secondary ICIOL implantation was 62.

Table 2: Age distribution

Age	ACIOL	SFIOL	ICIOL	Total
N	18	16	16	50
Mean	62.22	66.94	62.00	63.66
Std. Deviation	10.132	6.971	7.891	8.644
Minimum	43	55	49	43
Maximum	80	82	76	82

Mean, SFIOL

As per chi square test (P>0.05) it was found to be not statistically significant.

Sex Distribution

Table 3: Sex distribution

Gender	Surgery			Total
	ACIOL	ICIOL	SFIOL	

Female	9	10	4	23
Male	9	6	12	27
Total	18	16	16	50
	100.0%	100.0%	100.0%	100.0%

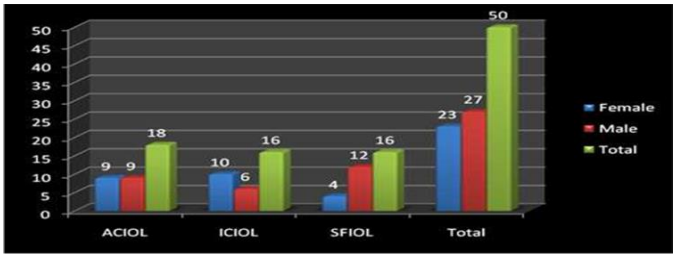

Fig 2: Sex distribution

As per the above table and bar-diagram it was found that there were 23 (46%) females and 27 (54%) males for secondary IOL implantation in our study. Females were highest 10(62.5%) in ICIOL group and males were highest 12 (75%) in SFIOL group. This result as per chi-square test (P>0.05) was found to be not statistically significant.

Laterality

Of the 50 (100%) pts, 23(46%) pts had aphakia in right eye and 27 (54%) pts had aphakia in left eye.

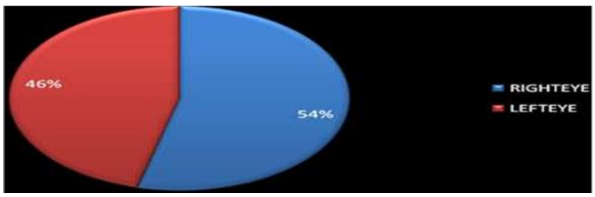

Fig 3: Laterality

Status of fellow eye

Table 4: Status of fellow eye

	Number	%
Pseudophakia	13	26
SIMC	32	64
SMC	5	10
Clearlens	0	0

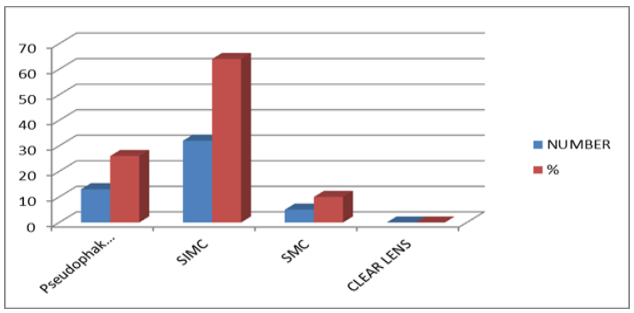

Fig 5: Status of fellow eye

Maximum number of patients have SIMC (64%), followed by patients with aphakia (26%).

Visual acuity

Best Corrected Visual Acuity On Ist Day Post-Operative

The status of vision (as per Snellens Chart) in the 50 patients at the first post operative day is as given below:

Table 5: BCVA 1st day post–operative

Bcvaistday	Surgery			Total
	ACIOL	ICIOL	SFIOL	
6/9	2	2	1	5

6/12	2	5	1	8
6/18	6	5	5	16
6/24	4	2	3	9
6/36	4	1	5	10
6/60	0	1	1	2
Total	18	16	16	50

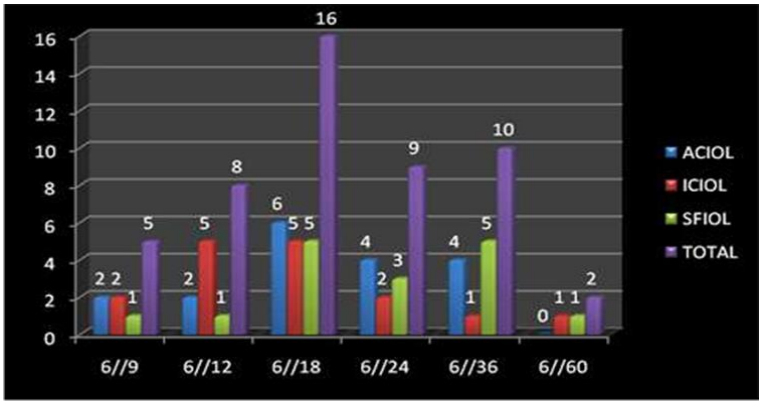

Fig 6: BCVA1st day post-operative

The percentage of patients with BCVA OF 6/9 at first post operative day in the ICIOL group was 12.5% as compared to 11.1% in ACIOL group and 6.3% in SFIOL group. Those who had BCVA of 6/60 in ICIOL and SFIOL group were 6.3% as compared to 0% in ACIOL group. The difference in the visual acuity of the these three groups is not statistically significant (Pvalue>0.05)

Bcva Ist Weekpost-Operative

Table 6: BCVA 1st week post –operative

BCVAIST Week	Surgery			Total
	ACIOL	ICIOL	SFIOL	
6/6	0	2	2	4
6/9	5	6	3	14
6/12	7	4	6	17
6/18	4	2	2	8
6/24	2	2	2	6
6/36	0	0	1	1
Total	18	16	16	50

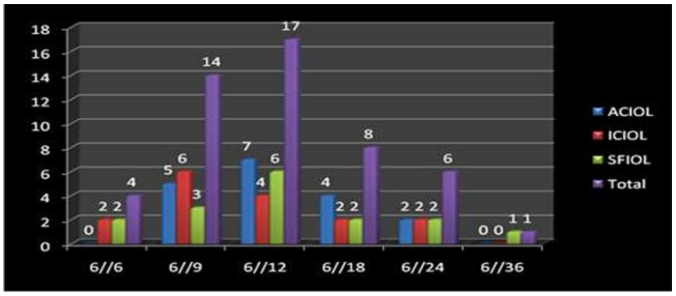

Fig 7: BCVA 1st week post-operative

The percentage of patients with BCVA OF 6/6 at first post operative week in the ICIOL and SFIOL groups were 12.5% as compared to 0% in ACIOL group. Those who had BCVA of 6/36 or worse in SFIOL group was 6.3% as compared to 0% in ACIOL and ICIOL groups. The difference in the visual acuity of the these three groups is not statistically significant (P value>0.05)

Bcva 1month After Surgery
Bcva Ist Month Post-Op

Table 7: BCVA 1st month post–operative

BCVAIST Month	Surgery			Total
	ACIOL	ICIOL	SFIOL	
6/6	8	8	7	23
6/9	7	4	3	14
6/12	1	0	6	7
6/18	1	1	0	2
6/24	1	3	0	4
Total	18	16	16	50

Table 8: BCVA 3rd month post–operative

Post-Operative Complications	Surgery			Total
	ACIOL	ICIOL	SFIOL	
CE	3	0	0	3
CME	0	0	2	2
DeL	0	3	0	3
DL	0	0	1	1
Hyp	2	0	1	3
↑Iop	2	1	1	4
IRITIS	2	1	1	4
PPK	0	2	0	2
SK	0	2	2	4
VL	0	0	2	2
Total	9	9	10	28

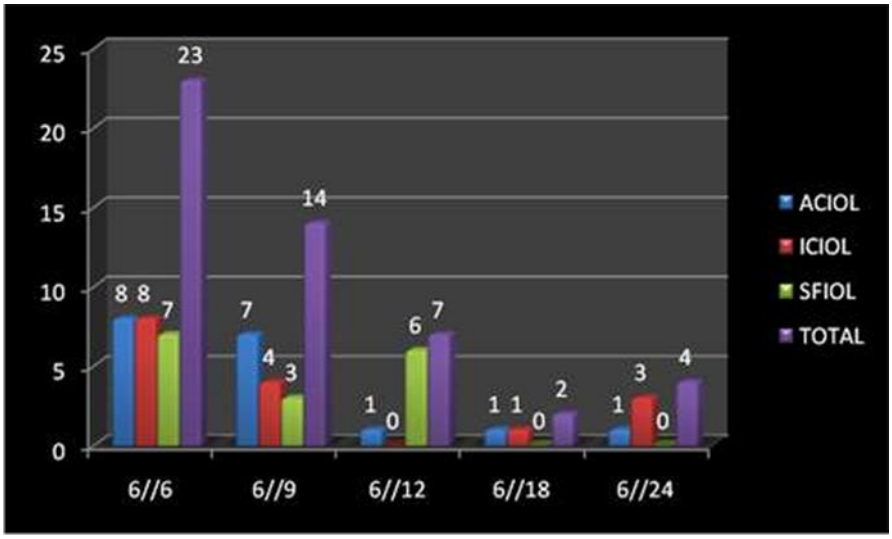

Fig 8: BCVA 1st month post-operative

The percentage of patients with BCVA OF 6/6 after 1 month of surgery in the ICIOL group was 50% as compared to 44.4% in ACIOL group and 43.8% in SFIOL groups respectively. Those who had BCVA of 6/24 or worse in ICIOL group was 18.8%as compared to 5.6% in ACIOL and 0% in SFIOL groups respectively. The difference in the visual acuity of the these three groups is not statistically significant (P value >0.05)

Bcva 3 Months After Surgery
Crosstab

Table 9: Post operative complication 1stday

BCVA 3RD Month	Surgery			Total
	ACIOL	ICIOL	SFIOL	
6/6	9	12	9	30
6/9	6	0	3	9
6/12	2	0	4	6

6/18	0	4	0	4
6/24	1	0	0	1
Total	18	16	16	50

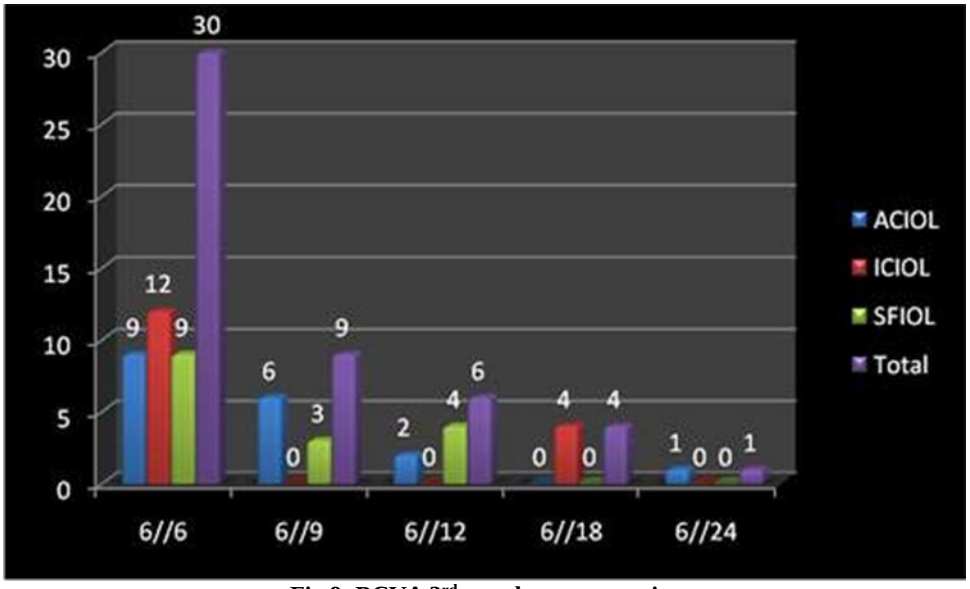

Fig 9: BCVA 3rd month post-operative

The percentage of patients with BCVA OF 6/6 after 3 months of surgery in the ICIOL group was 75% as compared to 50% in ACIOL group and 56.3% in SFIOL groups respectively. Those who had BCVA of 6/24 or worse in ACIOL group was 5.6%as compared to 0% in ACIOL and SFIOL groups respectively. The difference in the visual acuity of the these three groups is not statistically significant (P value >0.05).

Post-Operative Complications 1st Day Post-Op

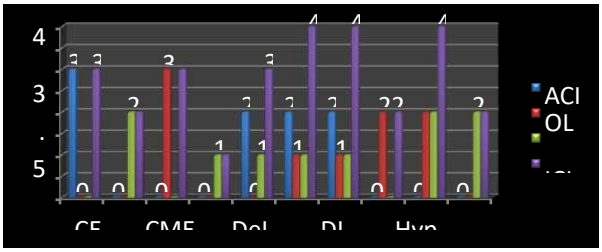

Fig 10: Post–operative complication 1stday

Total complications 1st day post-operative were 28(100%) in 50 pts. Of these 9 (32.14)% were seen in ACIOL group, 9(32.14%) in ICIOL group and 10(35.17%) in SFIOL groups respectively

Post-Opcomplications 1st Week

Table 10: Post operative complication 1st week

Post-operative Complications	Surgery			Total
	ACIOL	ICIOL	SFIOL	
Ce	3	0	0	3
Cme	0	0	2	2
Del	0	3	0	3
Dl	0	0	1	1
↑Iop	2	1	1	4
Ppk	0	2	0	2
Vl	0	0	2	2
Total	5	6	6	17

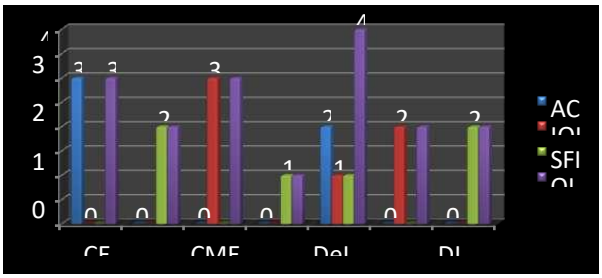

Fig 11: Post –operative complication 1st week

Total complications 1st week post-operative were 17 (100%) in 50 pts. Of these 5 (29.41) were seen in ACIOL group, 6(35.29) in ICIOL group and 6 (35.29%) in SFIOL groups respectively.

Post-Op Complications 1st Month

Table 11: Post operative complication 1st month

Post-Operative Complications	Surgery			Total
	ACIOL	ICIOL	SFIOL	
CE	3	0	0	3
CME	0	0	2	2
DeL	0	3	0	3
DL	0	3	1	4
↑Iop	2	1	1	4
SE	0	0	1	1
Total	5	7	5	17

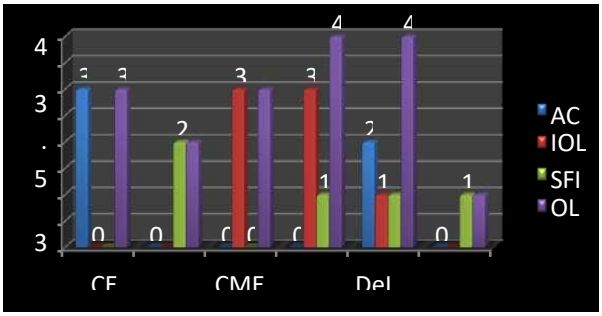

Fig 12: Post–operative complication 1st month

Total complications 1st month post-operative were 17(100%) in 50 pts. Of these 5(29.41%) were seen in ACIOL group, 7(41.17%) in ICIOL group and 5(39.41%) in SFIOL groups respectively.

Post-Op Complications 3rd Month

Table 12: Post operative complication 3rd month

Post-Operative Complications 3RD Month	Surgery			Total
	ACIOL	ICIOL	SFIOL	
CE	2	0	0	2
CME	0	0	2	2
DeL	0	3	0	3
DL	0	3	1	4
↑Iop	1	1	1	3
SE	0	0	1	1
Total	3	7	5	15

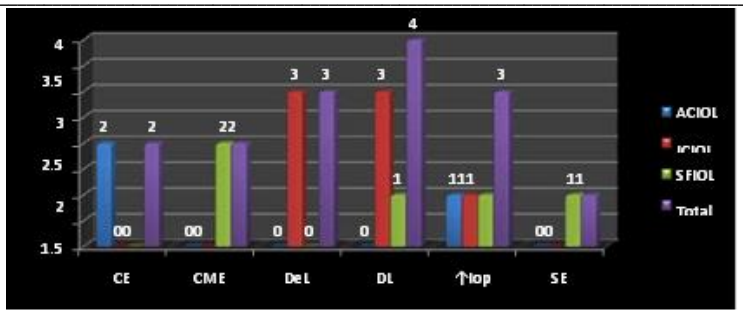

Fig 13: Post –operative complication 3rdmonth

Total complications 3rd month post-operative were 15(100%). Of these 3(20%) were seen in ACIOL group, 7(46.67%) in ICIOL group and 5 (33.33%) in SFIOL groups respectively.
The percentage of complications appears to be more in ICIOL as compared to SFIOL> ACIOL groups throughout from 1st day to 3rd month, but this is not statistically significant as per the chi square (P value>0.05).

Discussion

A large number of aphakic patients opt for secondary IOL implantation because of intolerance to contact lens and/or spectacle correction.
Various procedures have been introduced for the correction of aphakia. In our study, 50 cases presented to our outpatient department with monocular aphakia and were treated surgically with secondary IOL implantation. 18 cases underwent ACIOL implantation, 16 cases underwent ICIOL implantation and remaining 16 cases underwent SFIOL implantation.[7]
The mean follow up of these patients was 3 months.
9 (50%) cases had BCVA 6/6 in ACIOL group, 12(75%) cases had BCVA 6/6 in ICIOL group, 9(56.3%) cases had BCVA 6/6 in SFIOL group after 3 months.
1(5.6%) cases had BCVA 6/18 or worse in ACIOL group, 4(25%) cases had BCVA 6/18 or worse in ICIOL group, 0 cases had BCVA 6/18 or wose in SFIOL group.
Anterior uveitis (iritis) was seen in 2 (11.1%) cases in ACIOL group, 1 (6.25%) case in ICIOL group and 1 SFIOL (6.25%) group on 1ST post –operative day .These case were treated with topical steroids and cycloplegics and they responded well.
2(11.1%) cases in ACIOL group, 1(6.25%) cases in ICIOL group, and 1(6.25%) cases in SFIOL group developed hyphema and raised IOP during 1st week post operatively. Hyphema resolved in spontaneously and raised IOP was controlled using anti-glaucoma drugs.
3(16.6%) cases in ACIOL group, 2 (12.5%) cases in ICIOL group and 1(6.25%) case in SFIOL group developed striate keratopathy with in 1st week which resolved with 5%soline eye drops but it persisted in 2 cases of ACIOL group leading to vision lesser than 6/9 or worse.[8]
2(12.5%) cases developed cystoid macular edema in SFIOL group, which were treated with systemic carbonic anhydrase inhibitors B.D, topical corticosteroids combined with NSAIDs like ketorolac 0.5% qid, but it didn‘t resolve fully thus reducing the visual acuity less than 6/9 for which medical therapy was advised for further 3 months before planning for pars planavitrectomy.
3(18.75%) cases developed depigmentation of lens in ICIOL group early in 1st week but it resolved spontaneously by 3rd month without much affecting the visual acuity.
1(6.25%) case in SFIOL group developed early decentration of lens for which recentration was done and in 3(18.75%) cases in ICIOL group late decentration of IOL was seen. 2 (12.50%) cases developed vitreous loss in SFIOL group which was managed as follows:
Using a non – fragmenting cellulose – sponge any vitreous in the anterior chamber is touched, and drawn carefully to a position at which strands can be cut by de-Weckers scissors.[9]
The process was repeated till no vitreous remains in front of the iris.1(6.25%) case developed suture erosion in SFIOL group which was treated by cauterization technique with a glass rod.

Comparison With Previous Studies

1) Mazhry and Kadri did a prospective study of 45 patients over a period of 5 years from October 1995 to November 2000. The study was to evaluate secondary PCIOL implantation. In this study, intact PCIOL was implanted in 6 eyes, 11 eyes were treated with capsulotomy and implantation of IOL, 3 eyes underwent synechiolysis and IOL implantation, transscleral IOL fixation in 26 eyes, IOL retrieval and fixation of dislocated IOL in 4 eyes. Average visual acuity was in the range of 6/9-6/12. The most common complication was glaucoma (8 cases) followed by vitreous haemorrhage (4 cases with transscleral fixation) and hyphema (2 cases).
In our study, 78% had BCVA of 6/9 and above. Hyphema and glaucoma was seen in1 case which was treated. No vitreous haemorrhage was observed in our study.
2) Azhar et al conducted a study regarding the complication during secondary IOL implantation and they concluded that hemorrhage in 13.9% and vitreous loss occurred in 3.9% patients. Cystoid macular oedema occurred in 5.8%and corneal decompensation in 19.2% of patients. In our study vitreous loss was seen in 4% pts, CME in 8% pts and corneal decompensation in 6% patients.
3) Siva Charan did a retrospective study of 100 of non sutured secondary PCIOL implantation. In his study, 85% of patients developed good visual acuity in immediate postoperative period (up to 6/24). 15% patients had visual acuity less than 6/24. Most common immediate postoperative

complication was anterior chamber reaction (19cases). 8 cases developed corneal oedema. 5 cases had SK, 1 case developed choroidal detachment, 2 cases had hyphema, vitreous haemorrhage was seen in 2 cases and fibrous membrane was seen in 9 cases.

In our study, in non sutured PCIOL (ICIOL) group most common complication in postoperative period was depigmentation of lens (18.75%), decentration of lens (18.75%) and SK (12.50%).

4) Singh PG & Tripathy SK retrospectively studied 21 patients who underwent sclera fixation of IOL. 77% of patients achieved BCVA of 6/18 and above postoperatively. 1case (4.5%) had intra operative vitreous haemorrhage. Early post operative complications like transient corneal oedema were seen in 13 cases (59%). IOL decentration in 3(13.6%).1 case (4.5%) was seen to have hyphema and fibrinous reaction is seen in 2 cases (9%). Corneal oedema in 2 eyes (9%) and optic capture in 1 eye (4.5%).[10]

In our study post operative complications seen were striate keratopathy in 1 case (6.25%), IOL decentration in 1 (6.25%) case, hyphema and ant. Uveitis in 1 (6.25%) case, suture erosion in 1(6.25%) case, and cystoid macular edema in 2 (12.5%) cases.

Conclusion

Majority of patients seeking secondary intra-ocular lens implantation have monocular aphakia with good vision in the fellow eye.

Comprehensive pre op. evaluation with respect to status of corneal endothelium, PC integrity, status of vitreous in AC, biometry in aphakic mode to determine accurate IOL powers is essential to ensure successful visual rehabilitation following secondary IOL implantation.

Intra operatively delicate handling of tissues, adequate use of viscoelastics and constant maintenance of AC are pre requisites to minimize post op. complications.

Regular post op. follow up, recognition of complications and treatment of the same, help in maintaining good vision post op. ACIOL, ICIOL, SFIOL implantations have comparable results as per post operative visual acuity and complications are concerned and each is good in its own sense as per our study.

Conflict of Interest: Nil
Source of support:Nil

ACIOL group may have comparatively high risk of anterior uveitis, endothelial decompensation, SFIOL group have comparatively high risk of CME, suture problems and is lengthy and time consuming, ICIOL group though no suturing and less time consuming have lens decentration and lens depigmentation problems high comparatively.

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