

Commentary: Outcomes of surgical intervention in cases of ectopia lentis

Ectopia lentis is the dislocation or displacement of the natural crystalline lens. The disease can have a myriad of causes and can cause significant visual impairment due to lenticular curvature changes, leading to myopia and astigmatism.^[1] Spectacles can be given initially for visual rehabilitation, but most cases require surgical intervention due to the progressive nature of the disease, risk of complete luxation of the lens and secondary glaucoma.^[2] Surgical management of cases of ectopia lentis is challenging. Large case series describing surgery in cases of ectopia lentis and long-term follow-up is lacking. Although there are various options for intraocular lens (IOL) implantation in such cases,^[3-6] treatment needs to be tailored in every case.

Surgical intervention in 78 eyes with ectopia lentis has been studied in a paper published in the current issue.^[7] The authors describe the various surgical procedures and IOLs used in these cases. Their results show that overall visual outcome depends on the timing of the surgery, the type of surgery, the method of visual rehabilitation and compliance. IOL implantation and lens extraction resulted in better visual outcome than aphakia. Interestingly, the degree of subluxation was found to have no impact on the final visual outcome in the study cohort.

The surgical procedure and the IOL are often chosen based on the degree of subluxation in cases of ectopia lentis. But we often forget an essential consideration in this regard. The etiology of subluxation also needs to be equally investigated. Systemic association was observed in 52.6% of cases in the present study. Progressive systemic diseases like Marfan's may be associated with progressive subluxation, and hence IOLs sutured to the sclera should be avoided in these patients. We currently have very little evidence on the long-term follow-up of sutured intraocular lenses, especially in pediatric populations. Suture breakage has been documented as long as eight years after the surgery.^[8,9] Sutured lenses are fraught with complications such as suture breakage, IOL tilt or dislocation of the IOL into the vitreous, and risk of vitreous hemorrhage and endophthalmitis. We need an IOL that can last for decades and, at the same time, remain centered. Posterior enclavated iris fixated IOLs are gaining popularity because of their safety and low complication rate.^[10-12] Moreover, with new techniques of sutureless scleral fixation, complication rates can be further reduced.^[13] Sutureless techniques and posterior iris fixated IOLs can help in progressive diseases like Marfan's which form the most common etiology of ectopia lentis and pose the greatest threat of subluxation.

The etiology of the subluxation must be considered when deciding the surgical treatment in cases of ectopia lentis. We agree with the authors that every attempt must be made to implant IOL at the time of lens extraction, and secondary IOL should be planned if primary is not possible. Along with scleral fixated IOLs, posterior iris claw is also a good option with a lesser rate of complications and good visual outcomes.

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Supplementary file

Table showing comparison of baseline characteristics and post-operative outcome based on groups classified on the basis of IOL implantation

		Aphakia (n-42)	IOL (n-36)	p value
Age (years)		10.9 ± 7.8	19.19 ± 9.5	0.00
UCVA (logMAR)		1.47 ± 0.42	1.47 ± 0.46	0.88
CDVA (logMAR)		0.89 ± 0.55	0.78 ± 0.55	0.29
MRSE (D)		7.09 ± 10.87	6.72 ± 10.22	0.84
IOP (mm of Hg)		15.69 ± 4.36	15.38 ± 2.49	0.71
Subluxation (clock hrs)		7.14 ± 10.87	7.07 ± 1.56	0.83
Axial length (mm)		24.66 ± 2.29	23.86 ± 2.12	0.12
Mean keratometry (D)		41.61 ± 1.91	41.21 ± 2.19	0.39
Squint		23.8% (10)	11.1% (4)	0.23
Nystagmus		11.9% (5)	2.8% (1)	0.21
Cataract		19% (8)	22.2% (8)	0.78
Pupillary zone-Aphakia		76.2% (32)	63.9% (23)	0.32
Pupillary Zone - Phakic		23.8% (10)	36.1% (13)	0.32
Surgery	ILLA	92.9% (39)	-	
	Lens aspiration	4.8% (2)	-	
	PPL	2.4% (1)	-	
	ILLA + SFIOL	-	52.8% (19)	
	ICCE + SFIOL	-	5.6% (2)	
	Lens aspiration + IOL	-	25% (9)	
	ILLA + ACIOL	-	11.1% (4)	
	Phaco +ACIOL	-	5.56% (2)	
Intra-op Complication		2.4% (1)	2.8% (1)	1
Re-intervention		6.6% (2)	35.4% (17)	0.006
Post-op complication				0.000
	VH	-	6.4% (3)	
	Vitreous in AC	-	11.1% (4)	
	Decentered IOL	3.33% (1)	8.3% (3)	
	Optic capture	-	2.8%(1)	
	VAO	-	3.3% (1)	
	Endophthalmitis	-	2.8% (1)	
	Transient IOP rise	11.9% (5)	8.3% (3)	
CDVA last follow up (logMAR)		0.49 ± 0.32	0.34 ± 0.27	0.025

Footnotes

UCVA- uncorrected visual acuity; CDVA- corrected distance visual acuity; MRSE- manifest refractive spherical equivalent; IOP- intra-ocular pressure; ILLA- intra-lenticular lens aspiration; SFIOL- scleral fixated intra-ocular lens; IOL-intra-ocular lens; ACIOL- anterior chamber intra-ocular lens; PPL- pars plana lensectomy; CTR- capsular tension ring; VH- vitreous hemorrhage; AC- anterior chamber; VAO- visual axis opacification.