

Assessment of IOL surprise after Pediatric Cataract Surgeries

Dr Lav Kochgaway, Kolkata

Aim – A retrospective analysis of 100 eyes undergoing pediatric cataract surgery in terms of refractive outcome was done.

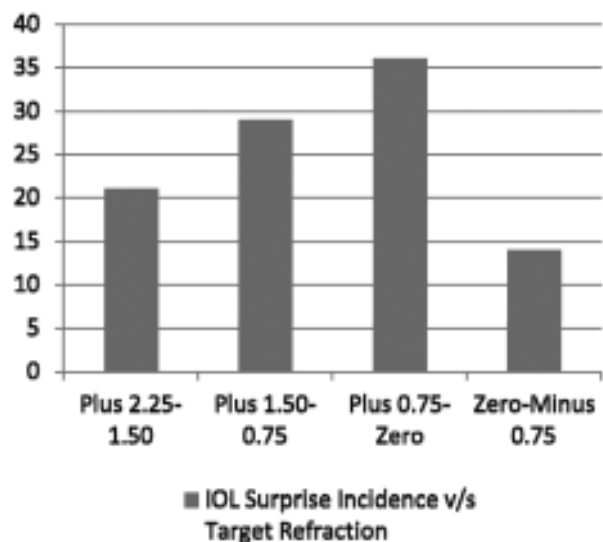
Material and Methods – 100 eyes of 82 patients undergoing pediatric cataract surgery by the same surgeon were included in the study. Children with preexisting corneal scars, traumatic cataracts and those without intraocular lens (IOL) implantation were excluded from the study. All children less than 7 years underwent phacoaspiration with primary posterior capsulorrhexis, anterior vitrectomy and intraocular lens implantation. Children more than 7 years underwent phacoaspiration with intraocular lens implantation. All children were implanted foldable acrylic single piece intraocular lenses. SRK or SRK II formula was used for lens power calculation. Post operatively retinoscopy was done at 2 weeks, 3 months and 6 months to determine accuracy of the intraocular lens power and to assess the changes in refraction over a period of time.

Results – The age of the children included in the study ranged from 1.5 to 14 years with an average age of 7.9 years. Gender distribution was equal. 59% of the eyes underwent phacoaspiration with primary posterior capsulorrhexis, anterior vitrectomy and intraocular lens implantation, while 41% underwent simple phacoaspiration with intraocular lens implantation. The target refraction for the immediate postoperative period ranged from +2.25 to -0.75 D, average being + 0.31 D. The intraocular lens power ranged from +4.00 D to +33D, average being +21.86 D.

The average postoperative refraction at 2 weeks was -0.29 D. This figure at the end of 3 months and 6 months was -0.31 D and -0.50 D respectively. The mean error between the planned immediate postoperative refraction and what was achieved finally was 0.6 D. Incidence of error of 1 D and

more between the target and final early postoperative refraction was 22%. It ranged from -2.25 D to +4.50 D. When intraocular power surprise was analyzed against the target postoperative refraction, it was found that in 36% of these patients the target refraction was +0.75 to 0 D, in 29% cases target refraction was +1.5 D to +0.75 D, in 21% it was +2.25 D to +1.50 D and in 14% it was 0 D to -0.75 D. We couldn't find any correlation between AC depth postoperatively and IOL surprise.

Discussion – Incidence of IOL power surprise was found to be higher in children. When we analyzed the distribution of the same in four target refraction groups, it was found that 65% of these patients had target refraction of +1.5 D to 0 D. This group of children falls mainly in the preschool and little older ones. They are the group who are most anxious for the clinical examination and any kind of outpatient procedure upon them. The older children in whom the target refraction was between 0 D to -0.75 D accounted for only 14% of the IOL surprise cases. Autokeratometer reading in uncooperative children may not always be representing the centre of the cornea. Same applies to axial length



Address for correspondence :

Dr Lav Kochgaway
BB Eye Foundation
2/5 Sarat Bose Road,
Kolkata 700020.

measurement also. Neely et al¹ in a similar study found the prediction error to be 0.30 D as compared to 0.6 D in our study. The variability in their study ranged from -4.06 D to +3.86 D as compared to ours of -2.25 D to +4.50 D. They concluded that the accuracy of the commonly used IOL calculation power was generally reasonable but highly variable. Over a period of 6 month postoperatively, there was a small myopic shift in the refraction of these children.

Conclusion – IOL surprise is an added problem area to already complex issue of IOL power calculation in pediatric cataract patients. Poor patient co-operation seems to be one of the confounding factors. It may be countered by sedating the patient while performing biometry, two independent readings or doing biometry on the operation table after the child has been anesthetized. Its incidence needs to be re-estimated after taking these measures.

References

1. Neely DE et al - J AAPOS. 2005 Apr;9(2):160-5: Accuracy of intraocular lens calculations in infants and children undergoing cataract surgery
2. Xie L et al - Ophthalmology. 2006 Oct 26: Long-term Follow-up of Eye Growth after Bilateral Intraocular Lens Implantation in Children with Congenital Cataracts
3. Leiba H et al - J AAPOS. 2006 Oct;10(5):460-3 - Ocular axial length changes in pseudophakic children after traumatic and congenital cataract surgery

Bengal Ophthalmic Journal

Advertising Tariff November 2010

Back Cover	Rs. 15000/-
Front Inside Cover	Rs. 12000/-
Back Inside Cover	Rs. 12000/-
Full Page Colour	Rs. 10000/-
Full Page Black and White	Rs. 7000/-

All payments by A/c payee cheque payable to "Ophthalmological Society of West Bengal".

Published by Dr. Paromita Sanatani for Ophthalmological Society of West Bengal
IMA House, Room No. 8, 53 Creek Row, Kolkata- 700014.

Designed and printed by Cygnus, 8th Floor, 'Saberwal House' 55B Mirza Ghalib Street, Kolkata-700016