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Long-term Risk of Glaucoma after Congenital Cataract Surgery

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Dear Editor

We appreciate the interest of Sukhija and coworkers in our manuscript. They note that intraocular pressure (IOP) has been reported to be lower in infants than adults and for this reason they propose that IOP should be considered to be raised at a lower threshold than >21 mm Hg in children. While it is probably true that IOP is lower during early infancy, it rises to adult levels during childhood.¹ For this reason, the international standard for pediatric glaucoma studies for a raised IOP continues to be >21 mm Hg. As stated in the Methods section, topical corticosteroids were generally used for 4 weeks after cataract surgery. This steroid regimen adequately controlled postoperative inflammation in these eyes. The only additional intraocular surgeries performed in these eyes were glaucoma surgeries and secondary IOL implantation. Gonioscopy was performed on all of these eyes, but was not reported due to space limitations. None of the patients had significant angle closure issues or a family history of childhood onset glaucoma. An IOP trend analysis was not performed because of the many uncontrolled variables that can influence IOP in a retrospective study.

Of the 62 eyes we studied, 6 eyes underwent cataract extraction and primary IOL implantation; the other 56 eyes were left aphakic after cataract surgery and were corrected optically with contact lenses or glasses. Seventeen of these eyes later underwent secondary intraocular lens (IOL) implantation. One-piece hydrophobic acrylic IOLs were implanted in all of the eyes undergoing primary IOL implantation and all but one eye undergoing secondary IOL implantation. Primary IOLs were all implanted in the capsular bag after performing a posterior capsulotomy and anterior vitrectomy. When implanting a secondary IOL, the capsular bag was opened and a one piece IOL was implanted into the capsular bag.² However, in one eye the capsular bag could not be opened so a 3-piece hydrophobic acrylic lens was implanted into the sulcus. The secondary IOLs were implanted at a mean age of 4.0 ± 0.6 years (range, 3.0 to 4.9 years). Most eyes in the study had nuclear cataracts (n=44). One patient with bilateral cataracts had one eye excluded from our analysis because cataract surgery was performed at >6 months of age in one eye. Hence, we only analyzed

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data on 62 rather than 63 eyes. The number of patients undergoing primary IOL implantation (n=6) was too small to allow a comparison of the rate of glaucoma in these patients versus the patients who underwent secondary IOL implantation (n=17).

In the Infant Aphakia Treatment Study, a randomized clinical trial comparing contact lens vs primary IOL implantation after unilateral congenital cataract surgery, a glaucoma-related adverse event occurred in 9% of the aphakic eyes compared to 16% of the pseudophakic eyes.³ While this difference was not statistically significant, it does suggest that IOL implantation does not protect infantile eyes from developing glaucoma after cataract surgery during the first year of life. The 5 year outcome of this study will soon be released and will provide further data on this important topic after a longer follow-up.

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References

1. Bradfield YS, Kaminski BM, Repka MX, et al. Comparison of Tono-Pen and Goldmann applanation tonometers for measurement of intraocular pressure in healthy children. *J AAPOS*. Jun; 2012 16(3): 242–248. [PubMed: 22459105]
2. Wilson ME Jr, Englert JA, Greenwald MJ. In-the-bag secondary intraocular lens implantation in children. *J AAPOS*. Dec; 1999 3(6):350–355. [PubMed: 10613579]
3. Beck AD, Freedman SF, Lynn MJ, Bothun E, Neely DE, Lambert SR. Glaucoma-related adverse events in the Infant Aphakia Treatment Study: 1-year results. *Arch Ophthalmol*. Mar; 2012 130(3): 300–305. [PubMed: 22084157]