Comparing contact lenses to intraocular lens correction of monocular aphakia during infancy – A literature review

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For many practitioners, intraocular lens (IOL) implantation at the time of cataract surgery is considered the standard-of-care for children 2 years of age or older in the United States.\(^1,2\) This research\(^3\) is a portion of the Infant Aphakia Treatment Study (IATS), a multi-center, randomized, clinical trial comparing cataract surgery with or without IOL implantation in infants age 1–6 months with a unilateral congenital cataract. This particular study evaluated the visual outcomes of patients corrected with contact lenses compared to IOLs after unilateral cataract surgery during early infancy.\(^3\) Visual acuity was evaluated at age 4.5 years.\(^3\) Twelve sites with 114 infants with unilateral congenital cataracts were involved in the study.

Clinical pearls from this study:

- There was no significant difference between the median visual acuity of operated eyes in children who underwent primary IOL implantation and those left aphakic with a contact lens.
- The median logMAR visual acuity in the eyes did not differ significantly between treatment groups.
- Approximately 50 percent of eyes in both treatment groups had poor visual acuity (≤20/200). However, more than twice as many eyes in the contact lens group had visual acuity ≥20/32.
- Visual acuity in the fellow phakic eyes did not differ between treatment groups.
- There were significantly more adverse events and additional intraoperative procedures in the IOL group.
- By age 5 years, at least one adverse event had occurred in 32 (56 percent) of eyes in the contact lens group compared to 46 (81 percent) of eyes in the IOL group (p=.008).
- The most common complications were lens replication into the visual axis, pupillary membranes and corectopia. These findings are consistent with other studies of children undergoing IOL implantation during infancy.\(^4,5\)
- Of note, in aphakic eyes, the margins of the anterior and posterior capsular bag usually fuse together. This prevents lens material from migrating out of the Sommerring ring into the pupillary space. In pseudophakic eyes, lens material is able to migrate into the pupillary space because the IOL interferes with the fusion of the lens capsule remnants.
- Glaucoma developed in a similar number of eyes from each group.
- The recommendation from this study when operating on an infant with a unilateral cataract less than 7 months of age is to leave the eye aphakic and correct the vision with a contact lens.

References

Melissa Barnett, O.D., F.A.A.O. is a principal optometrist at the UC Davis Medical Center in Sacramento, where she performs primary and medical eye examinations and fits contact lenses, including specialty contact lenses, in addition to teaching optics and contact lenses to ophthalmology residents. She lectures and has been published on topics including dry eye, anterior segment disease, contact lenses, corneal collagen cross-linking and creating a healthy balance between work and home life for women in optometry. She is also a spokesperson for the California Optometric Association and has appeared on several television shows. In her spare time she enjoys cooking, yoga and spending time with her husband, Todd Erickson, also an optometrist, and two sons, Alex (7) and Drew (5).

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