Congenital cataract surgery with intracameral triamcinolone: Pre- and postoperative central corneal thickness and intraocular pressure

Marcelo Carvalho Ventura, MD,a,b Bruna Vieira Ventura, MD,a Camila Vieira Ventura, MD,a Liana Oliveira Ventura, MD, PhD,c,d and Walton Nosc, MD, PhD

PURPOSE

To evaluate the change in intraocular pressure (IOP) and central corneal thickness (CCT) of children who underwent congenital cataract surgery with injection of triamcinolone acetonide into the anterior chamber at the end of the procedure.

METHODS

Fifty-three eyes of 34 children <2 years of age who underwent congenital cataract surgery with injection of 1.2 mg/0.03 mL of preservative-free triamcinolone acetonide into the anterior chamber at the end of the procedure were included in this study. IOP and CCT were measured preoperatively and at a mean of 2 and 12 months' follow-up.

RESULTS

The mean IOP was 8.7 ± 0.4 mm Hg preoperatively, 8.4 ± 0.6 mm Hg at the 2-month follow-up, and 8.1 ± 0.3 mm Hg at the 12-month follow-up. The mean CCT was 562 ± 11 μm preoperatively, 563 ± 10 μm at the 2-month follow-up, and 570 ± 10 μm at the 12-month follow-up. There was no significant change in either pre- or postoperative IOP (P = 0.700) or CCT (P = 0.419) over the study period.

CONCLUSIONS

Injection of 1.2 mg triamcinolone acetonide at the end of congenital cataract surgery in children <2 years of age did not significantly affect IOP or CCT in the first year after surgery. (J AAPOS 2012;16:441-444)

Subjects and Methods

This retrospective interventional case series was approved by the Institutional Review Board of the Altino Ventura Foundation. This study followed the tenets of the Declaration of Helsinki. The patients’ guardians received an explanation concerning the surgical treatment and provided written informed consent prior to surgery.

The study included consecutive patients with a unilateral or bilateral congenital cataract that underwent phacoaspiration with primary intraocular lens (IOL) implantation before the age of 2 years at the Altino Ventura Foundation during the period of August 2007 to July 2010. All patients received intracameral triamcinolone at the end of the procedure. Patients with corneal opacity, glaucoma, aniridia, subluxated cataract, traumatic cataract, complex microphthalmia, persistent hyperplastic primary
variables are expressed as the mean ± SE and the maximal and minimal values. A P value <0.05 was considered significant.

**Results**

A total of 53 eyes of 34 children <2 years of age (19 boys [56%]) who underwent surgery to treat a congenital cata-

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**Discussion**

Previous studies have described the safety of maintaining triamcinolone in the anterior chamber at the end of phacoemulsification in adults. In the current study, triamcinolone was injected into the anterior chamber at the end of congenital cataract surgery in children <2 years of age and absorbed during the postoperative period. No eye developed secondary opacification or required additional surgery, corroborating the findings of a previous study in which triamcinolone was injected into the anterior chamber, used during congenital cataract surgery as a vitreous dye, and removed from the eye before the close of surgery.

Children have an enhanced ocular inflammatory response and a more reactive vitreous face than adults. Postoperative modulation of inflammation in congenital cataract surgery is essential for improving visual outcomes. Although subconjunctival, topical, and oral steroids can be used, subconjunctival injections may cause subconjunctival hemorrhage and chemosis; topical and oral steroids require frequent doses and strict compliance. Injection of steroids into the anterior chamber immediately after surgery avoids these possible disadvantages and provides higher concentrations of the drug.

The exact time at which the eye is free of triamcinolone acetonide crystals is unknown, especially in children's eyes. Beer and colleagues calculated that triamcinolone concentrations are present in the aqueous humor for 93 ± 28 days in nonvitreectomized adult eyes after an intravitreal injection, an estimate others have corroborated.
from others that have reported thicker corneas after surgery.13,27

The current study is limited by its retrospective nature. In summary, 1.2 mg of preservative-free triamcinolone acetonide injected into the anterior chamber at the end of congenital cataract surgery with primary IOL implantation in patients younger than 2 years of age did not increase the IOP or CCT on the second postoperative month and a year after the procedure.

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References


