Accepted Manuscript

Long-term surgical outcomes for large-angle, infantile esotropia

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PII: S0002-9394(17)30483-X

DOI: 10.1016/j.ajo.2017.11.006

Reference: AJOPHT 10324

To appear in: *American Journal of Ophthalmology*

Received Date: 10 August 2017

Revised Date: 2 November 2017

Accepted Date: 6 November 2017

Please cite this article as: Wan MJ, Chiu H, Shah AS, Hunter DG, Long-term surgical outcomes for large-angle, infantile esotropia, *American Journal of Ophthalmology* (2018), doi: 10.1016/j.ajo.2017.11.006.

Manuscript Title: Long-term surgical outcomes for large-angle, infantile esotropia

Abstract:

Purpose: To report the long-term surgical outcomes for a cohort of children with large-angle, infantile esotropia.

Design: Multicenter, non-randomized clinical study

Methods:
Setting: Two tertiary-care pediatric hospitals.
Study Population: 88 children with large-angle (≥ 55 prism diopters), infantile esotropia.
Intervention: Surgical treatment of infantile esotropia.
Main Outcome Measure: Success rate at final follow-up (postoperative deviation ≤10 prism diopters and no need for retreatment).

Results: A total of 88 patients with large-angle, infantile esotropia were treated during the 13-year study period. Treatment was bilateral medial rectus muscle recessions in 70 patients, botulinum toxin-augmented surgery in 15 patients, and three-muscle surgery in 3 patients. After a mean follow-up of 40 months, 20 (23%) patients had a successful outcome compared to 68 (77%) treatment failures. Of the 68 treatment failures, 59 had residual or recurrent esotropia compared to 9 with sequential exotropia. On multivariate logistic regression, treatment modality was the only factor significantly associated with a successful outcome. Specifically, patients treated with botulinum toxin-augmented surgery were more likely to have a successful outcome compared to patients treated with bilateral medial rectus muscle recessions. For the 26 patients (30%) who underwent retreatment, the mean number of procedures was 2.1, and 7 (27%) had a deviation of ≤10 prism diopters at final follow-up.

Conclusions: The overall success rate for treatment of large-angle, infantile esotropia was poor in this cohort, with most failures due to recurrent or residual esotropia. Botulinum toxin-augmented surgery was associated with a higher success rate at final follow-up.