Accepted Manuscript

Accommodative Esotropia Treatment Plan Utilizing Simultaneous Strabismus Surgery and Photorefractive Keratectomy

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PII: S0002-9394(18)30008-4

DOI: 10.1016/j.ajo.2018.01.005

Reference: AJOPHT 10377

To appear in: *American Journal of Ophthalmology*

Received Date: 3 May 2017

Revised Date: 3 January 2018

Accepted Date: 5 January 2018

Please cite this article as: Eustis HS, Shah P, Accommodative Esotropia Treatment Plan Utilizing Simultaneous Strabismus Surgery and Photorefractive Keratectomy, *American Journal of Ophthalmology* (2018), doi: 10.1016/j.ajo.2018.01.005.

ABSTRACT

Purpose: Accommodative esotropia is a common cause of acquired esotropia. Pathogenesis varies among patients but usually includes excessive hyperopia and a high accommodative convergence/accommodation ratio or tight medial recti. The present study reviews an individualized treatment plan combining photorefractive keratectomy (PRK) and strabismus surgery to correct these problems.

Design: This study is a retrospective, interventional case series.

Methods: Records for 15 patients who were treated for accommodative esotropia were reviewed. Patient ages ranged from 11 to 19 years. PRK and strabismus surgery were performed on 11 patients, and PRK only on 4 patients. The goal was to create a physiologic refractive error, good visual acuity (VA), and straight eyes without correction.

Results: All patients were spectacle free at 6-month follow-up. Twenty-four of 30 eyes had VA equal to preoperative VA without correction. Three eyes had a 1 line reduction and 2 line reduction in VA. The alignment results were ±10 prism diopters in 13/15 patients. Spherical refractive outcomes were 18/30 eyes within 1 diopter (D) of target and 12/30 eyes within 2 D of target. Astigmatism refractive outcomes were 21/30 eyes <1 D, 7 eyes 1-2 D, and 2 eyes >2 D. Two patients complained of halos at night, and one patient had peripheral corneal haze.

Conclusion: Simultaneous PRK and strabismus surgery is safe and effective in treating accommodative esotropia. An individualized treatment plan can result in a physiologic refractive error, good VA, and a spectacle-free existence.