Surgical Outcome of Graded Y Split in Patients With Duane’s Retraction Syndrome

To the Editors:

Y splitting for the treatment of up or down shoots in Duane’s syndrome was first described by Jampolsky in 1980.1 Apart from Y splitting of the lateral rectus muscle, the other surgical options for patients with Duane’s retraction syndrome (DRS) with up and down shoots described previously include simple lateral rectus recession combined with medial and lateral rectus muscle recessions,2,3 lateral rectus posterior fixation sutures,4,5 and more. In a recent study, we described and analyzed the surgical outcome of graded recession and Y splitting of the lateral rectus muscle with and without recession of medial rectus muscle in patients with significant up shoot, down shoot, or both in DRS.

The study was conducted in the Department of Pediatric Ophthalmology and Strabismus (September 2012 to May 2013) in a tertiary eye care institute after obtaining approval from the institutional review board. Patients with significant up shoot, down shoot, and globe retraction and who were cooperative for detailed evaluation and measurements were included in this study.

The surgical procedure consisted of identifying the lateral rectus muscle and splitting it posteriorly as far back as possible. Locking bites were taken separately from the two halves of the muscle prior to cutting it from its insertion and then it was recessed by approximately 1 mm for every 2 prism diopters (PD) of tropia measured preoperatively in forced primary position. In patients with mild, moderate, and severe up shoot, the split ends were positioned 6, 8, and 10 mm apart, respectively, from the center of the line from the original insertion. Thus, the amount of recession of the lateral rectus muscle and the separation of the two halves of the muscle at the new insertion were titrated according to the preoperative deviation in primary position and the severity of up and down shoot. Medial rectus recession was performed in patients with esotropic DRS or in patients with severe globe retraction.

Eight patients (mean age: 17.75 years) met the inclusion criteria for this study. Forced duction test was positive in all of the cases. The mean preoperative near deviation was 28.75 ± 16.44 PD, which reduced to 14.14 ± 13.74 PD postoperatively (P = .0277). For distance, it was 24.38 ± 16.9 PD preoperatively, which reduced to 14 ± 11.85 PD (P = .074) postoperatively.

All 6 patients with down shoot demonstrated no down shoot postoperatively (P = .002). Of 5 patients with preoperative up shoot, only 1 continued to have mild up shoot postoperatively (P = .039). Of 2 patients who had severe globe retraction preoperatively, 1 had mild globe retraction postoperatively, whereas the other patient did not have any (P = .522). The coefficient of correlation between lateral rectus recession and change in the prism cover test for distance and near was 0.66 and 0.75, respectively. None of the patients had any new vertical deviation in the postoperative period.

Graded recession of the lateral rectus muscle along with Y splitting and graded position of scleral attachment of the halves to the “Y” has shown good results in terms of reducing the up shoot, down shoot, and globe retraction postoperatively.

REFERENCES


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