

Improving outcomes of posterior-approach levatorpexy for congenital ptosis with poor levator function

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Purpose: The authors present a follow-on series with continued experience using posterior-approach levatorpexy for congenital ptosis. This technique avoids a skin-incision or any resection or excision of tissue (conjunctiva, Muller's muscle, levator palpebrae superioris (LPS). We report a larger series of patients with poorer levator function (LF) in comparison to our first published report.

Participants: Consecutive series of 16 patients.

Methods: Retrospective, single-centre review of levatorpexy for congenital ptosis performed between 2013-16. Two independent assessors collected clinical data and reviewed patient photographs to report outcomes. Data included lid margin reflex distance (MRD1), pre-tarsal show, contour and complications, including nocturnal lagophthalmos, bothersome lid-lag on downgaze and dry eye. Surgery was considered successful if the following three criteria were simultaneously met: A postoperative MRD1 of ≥ 2 mm and ≤ 4.5 mm, inter-eyelid height asymmetry of ≤ 1 mm, and satisfactory eyelid contour.

Results: Mean age was 10.3 years (range 1–26 years). Mean postoperative follow-up was 7.7 months (3–31 months). Mean levator function (LF) was 7.9 mm (2–14 mm), while 63% had $LF \leq 7$ mm. Preoperative phenylephrine test was positive in 87.5% of patients. Mean preoperative and postoperative MRD1 was 1.34 mm and 3.2 mm, respectively. The asymmetry of pretarsal show improved from 2.2mm to 0.45mm, postoperatively. Fourteen patients (87%) achieved the desired eyelid height and fulfilled our criteria set for success. Among 10 patients with $LF \leq 7$ mm, 9 (90%) achieved the desired eyelid height and fulfilled our criteria set for success. Ninety-four percent did not report nocturnal lagophthalmos. Three patients who did not achieve desirable MRD1 had further levatorpexy procedure; two of them had $LF \leq 7$ mm.

Conclusions: Posterior approach levatorpexy is a useful first-line choice for congenital ptosis with all ranges of LF. It is popular amongst parents due to its avoidance of a skin-incision or any resection or excision of tissue.