

Anterior approach levatorpexy for correction of congenital ptosis



We describe a novel modification of levator advancement for congenital upper eyelid ptosis, in a case series. Written informed consent was obtained from all patients/parents. Local institutional review board approval was granted.

All procedures were performed under general anaesthesia. A cornea protector is recommended to protect the globe. The upper eyelid is everted and local anaesthetic (bupivacaine 0.25% with 1:200 000 adrenaline) is injected subconjunctivally (0.5 mL), superior to the tarsus. Local anaesthetic is also injected subcutaneously (1 mL) along the pretarsal region. An incision is placed in the upper eyelid skin crease, and dissection through the orbicularis is aimed toward the superior tarsus. The levator aponeurosis is grasps and dissection is then continued between the posterior levator aponeurosis and Müller’s muscle/conjunctival tissue, exposing the posterior surface of levator aponeurosis, commonly visible as a “white line.” Blunt dissection is then continued in this tissue plane to expose the posterior surface of levator. A single-armed 5-0 Vicryl suture (1/4 circle, spatulated needle) is placed partial thickness through the posterior surface of levator and advanced toward the previously exposed anterior tarsus (Fig. 1). Two sutures on a temporary knot are placed 2 mm on either side of the midpupillary line. The upper eyelid margin is left at the level of the superior limbus. The eyelid

height can be adjusted by placing the sutures lower or higher on the posterior surface of the levator muscle if the upper eyelid appears overcorrected or undercorrected, respectively. The sutures are then permanently tied. The skin incision is closed with dissolvable sutures.

Fifteen eyelids of 14 patients (8 males, 6 females) were included in this study. Median age was 17 years (range 7–42 years). Thirteen patients had unilateral congenital ptosis and one was bilateral. None had jaw-wink synkinesis and recurrent ptosis.

The mean postoperative follow-up was 14 months (range 2–48 months). Mean levator function was 8 mm (range 6–10 mm). Mean preoperative margin reflex distance (MRD1) was 0.5 mm (range 0–1 mm), and the mean postoperative MRD1 was 3.2 mm (range 2–4 mm).

Postoperative results are shown (Fig. 2). There were 2 undercorrections and no overcorrections. All patients had mild exposure keratopathy, which improved with conservative management.

Anterior approach levatorpexy surgical technique is similar to the anterior approach white-line advancement, described by Sagili, for correction of adult aponeurotic upper eyelid ptosis.¹ However, in levatorpexy the dissection is continued upward beyond the levator aponeurosis (white-line) to expose and advance the levator muscle. We perform anterior levatorpexy in patients with a levator function of 6 mm or better.

Posterior approach levatorpexy described by Al-Abbadi et al² is a similar technique, where the posterior surface of the

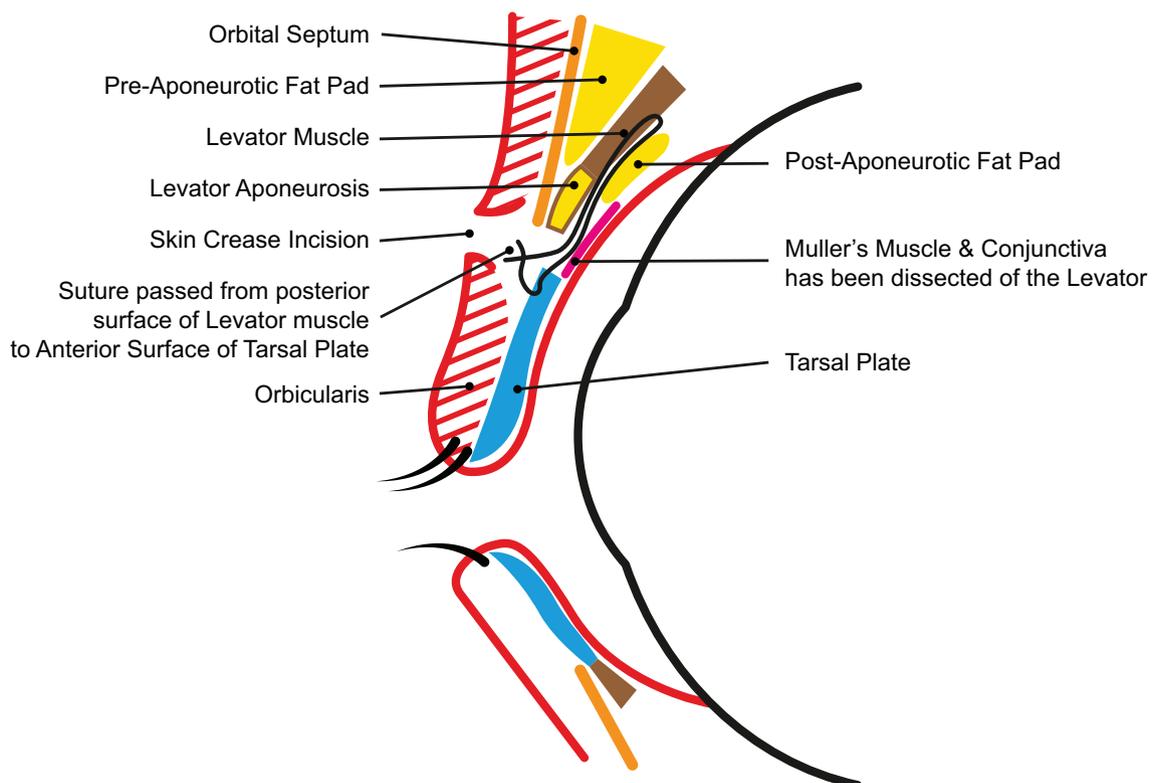


Fig. 1—Anterior approach levatorpexy.



Fig. 2—Preoperative photos (a, c, e, g, i) and postoperative photos (b, d, f, h, j).

levator is advanced through a conjunctival incision. Posterior approach upper eyelid ptosis correction techniques are believed to provide better cosmetic results because these techniques do not disrupt the orbital septum and pre-aponeurotic fat pad.³

Anterior approach levatorpexy retains this advantage of keeping the orbital septum and pre-aponeurotic fat pad intact and avoids a conjunctival incision or excision of any tissue.

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Footnotes and Disclosure

The authors have no proprietary or commercial interest in any materials discussed in this article.