When a temporal artery biopsy is performed, the surgeon should refrain from removing the periarticular tissues except to the extent necessary to ensure accurate identification and secure ligation of the vessel. Nor should the pathologist strip the artery before embedding.

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The Role of Midface Lift and Lateral Canthal Repositioning in the Management of Euryblepharon

Euryblepharon is a congenital eyelid anomaly characterized by horizontal enlargement of the palpebral fissure. The eyelid is shortened vertically compared with the horizontal dimension, with associated lateral canthal malpositioning and lateral ectropion.1,2 It may be an isolated finding or associated with ocular anomalies such as lateral displacement of the proximal lacrimal drainage system, a double row of meibomian gland orifices,2 telecanthus, and strabismus.3 In severe cases, it may result in lagophthalmos and exposure keratopathy2 and may require surgical treatment. We report the results of 2 patients with hereditary disorders and euryblepharon treated successfully with midface lift and lateral canthal repositioning surgery. The surgical technique is described.

Report of Cases. Case 1. A 17-year-old girl with Noonan syndrome (Online Mendelian Inheritance in Man 163950) and bilateral lower eyelid euryblepharon since birth was seen with eye irritation and nocturnal lagophthalmos. The parents were also concerned about the aesthetic appearance of their child. An examination revealed upper eyelid ptosis, bilateral inferolateral displacement of the lateral canthi, lateral ectropion (Figure 1), and lagophthalmos with mild punctuate keratitis.

She was treated with bilateral midface lift via a swinging eyelid
transconjunctival approach and lateral canthal repositioning. Postoperatively, the lateral canthi were positioned symmetrically at a higher level, with good eyelid closure. The results have remained stable at the fourth postoperative month (Figure 2).

Case 2. A 5-year-old boy with Jacobsen syndrome (Online Mendelian Inheritance in Man 147791) and bilateral congenital ptosis and lower eyelid euryblepharon was seen. He had a history of esotropia treated with surgery. The ptosis was visually significant, with poor levator function of 5 mm bilaterally. He had lateral ectropion and canthal malpositioning (Figure 3), but the corneas were compensated.

He first underwent bilateral midface lift and lateral canthal repositioning surgery via the same technique as used in case 1 to reconstruct the lower eyelid to minimize exposure. He was then treated 3 months later with bilateral frontalis suspension (using silicone slings). He achieved elevation of the upper eyelids and correction of his lower eyelid anomaly without lagophthalmos. The lower eyelid and lateral canthal positions were maintained during the first postoperative year (Figure 4).

Surgical Technique. We use a preperiosteal midface lift surgery via a swinging eyelid transconjunctival route in both cases. A 3-mm lateral canthal incision is made with a No. 15 blade. The superior and inferior limbs of the lateral canthal tendons are cut with curved Steven scissors to mobilize the entire lateral canthus. The lateral lower eyelid retractors are lysed from the inferior tarsal border, and a myocutaneous flap is then raised over the malar eminence by dissecting inferiorly along a preperiosteal plane to recruit cheek tissues. Dissection over the medial aspect is performed cautiously to avoid the infraorbital neurovascular bundle. The flap is anchored to the arcus marginalis of the inferior orbit with 4 interrupted 4-0 polydioxanone sutures. The excess horizontal eyelid tissue is excised over the lateral aspect conservatively to shorten the upper and lower eyelids. Lateral tarsal strips of the eyelids are then fashioned (by dissecting the anterior lamella and eyelid margin off the lateral tarsal end) and sutured to the periosteum of the lateral orbit at a higher and more posterior position. The lateral canthus is reformed, and the lateral canthal incision is closed with a 6-0 plain gut suture.
Comment. The lack of anterior lamella vertically in the lower eyelid is reported to be responsible for the ectropion and lagophthalmos.\textsuperscript{2} We have observed intraoperatively in our patients that the lateral canthal tendons are elongated and abnormally attached at a lower and more anterior position on the lateral orbit. The former probably contributes partly to the widened horizontal eyelid width, while the latter may account for the canthal malpositioning and lateral ectropion.

The vertical shortness of skin in patients with euryblepharon has prompted treatment with full-thickness skin grafting,\textsuperscript{1} which may be effective but aesthetically unappealing to patients. Lateral canthal resuspension surgery alone will not be adequate to address the downward traction force from skin deficiency and does not correct the canthal malpositioning fully. Midface elevation recruits skin from the cheek to augment the deficient anterior lamella of the lower eyelid.

The lateral canthal repositioning surgery corrects the canthal malpositioning, while the midface lift corrects the vertical eyelid shortening and supports the lateral canthus. The ideal plane for midface lift is controversial, although there seems to be a trend toward subperiosteal dissection.\textsuperscript{4,5} We believe that these young patients have robust osteocutaneous ligamentous attachments, normal midface musculature, and a superficial musculoaponeurotic system with no midface descent or deflation. Hence, limited dissection along a preperiosteal plane over the malar eminence to recruit some cheek tissues may suffice to avoid temporal dissection, with the potential risk for facial nerve injury (frontal branch).

In the management of euryblepharon, our surgical technique is an effective treatment alternative to full-thickness skin grafting, with the advantage of having small incisions and superior aesthetic results. However, the durability of the surgical results will require further evaluation with long-term follow-up.

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