Commentary on: The Effect of Hering’s Law on Different Ptosis Repair Methods

Richard L. Anderson, MD, FACS; and Kian Eftekhari, MD

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The author of “The Effect of Hering’s Law on Different Ptosis Repair Methods” should be acknowledged for his work studying a series of patients who underwent ptosis surgery. Eyelid ptosis presents one of the most confounding challenges to an aesthetic surgeon because often this procedure that seems so simple can have inconsistent results. When I was a fellow years ago with Crowell Beard, he told me, “If it weren’t for ptosis, oculoplastic surgeons wouldn’t exist.” In our practice, we have found the levator advancement procedure to be the single most effective and consistent procedure to correct small and large amounts of ptosis from many different etiologies. In addition, most adult patients with ptosis also have dermatochalasis and thus would benefit from a blepharoplasty. An anterior approach allows the surgeon to create an eyelid crease as well as to correct the anatomic defect in the dehisced levator tendon and only adds a few minutes to the operative time in experienced hands.

The author presents a creditable discussion regarding the effect of Hering’s dependence on the ptosis occurring on the contralateral side after unilateral ptosis surgery. The importance of preoperative evaluation of the ptosis patient cannot be overstated. It is essential, as the author points out, to try to establish the cause of the ptosis—be it aponeurotic, congenital, traumatic, or neurogenic from a Horner’s syndrome—and to perform a full exam to ensure the best possible surgical result. The author correctly points out that it is important to assess the contralateral eyelid when encountering a patient with a unilateral ptosis, because if one performs unilateral ptosis surgery, it is not uncommon to have contralateral droop afterwards if the Hering’s dependence is not checked preoperatively. As with all aesthetic surgery, most patients have facial asymmetry, and this must be considered in all eyelid surgery, including ptosis repair, to achieve a symmetric result.

However, his analysis of the contralateral Hering’s effect during surgery and subsequent presentation of his results does raise some questions. First, we do not routinely evaluate the Hering’s effect on the contralateral upper eyelid intraoperatively. In fact, this is nearly impossible to do. When giving local anesthetic with lidocaine, it is common to have eyelid swelling, as well as temporary paralysis of the levator muscle on the operative side, which makes raising the eyelid difficult and evaluation of ptosis on the contralateral side highly unreliable. Only when the anatomic findings do not correlate with the amount of ptosis do we perform the intraoperative evaluations suggested.

In addition, the routine administration of epinephrine in his surgical technique raises the question as to whether the epinephrine stimulated Muller’s muscle (a smooth muscle in the upper eyelid responsive to sympathetic stimulation), which could confound whether the levator advancement surgery or the Muller’s muscle stimulation caused a Hering’s effect. The author correctly points out that local anesthetic may cloud the interpretation of the Hering’s effect, but unfortunately this admission calls into question the major finding of his study.

The author postulates that posterior ptosis surgery (also known as Mullerectomy or Fasanella-Servat procedure if a portion of the tarsal plate is also removed) is superior to levator advancement surgery for the correction of ptosis and for the rate of Hering’s response. This is a small study with a nonrandomized patient population, and it should be pointed out that the 2 groups were subject to significant selection bias. First of all, an experienced ptosis surgeon would not choose a posterior ptosis procedure for a large amount of ptosis greater than approximately 2 mm. In our practice, we do not routinely perform a posterior ptosis procedure for such a large amount of ptosis. Dr Anderson is an oculoplastic surgeon and Dr Eftekhari is a fellow in private practice in Salt Lake City, Utah.

Corresponding Author:
Dr Richard L. Anderson, 1002 E. South Temple Street, Suite 308, Salt Lake City, UT 84102, USA.
E-mail: rick@aosurgicalarts.com
practice, we have seen many complications of posterior ptosis procedures including dry eye and disruption of the tear film from removal of the conjunctival goblet cells and accessory lacrimal structures that sit above the tarsal plate on the posterior lamella. When a tarsectomy is performed, the lid-crease height is altered and may be impossible to match in unilateral cases. Even if tempted to perform a posterior ptosis procedure—which we do not advocate—it is important to point out that in the author’s series, the standard deviation for the margin-to-reflex distance (MRD1) was much greater in the group receiving levator advancement surgery than in the group receiving Mullerectomy surgery. In other words, if even 5 of the patients had a severe ptosis with an MRD1 below the pupil, and these patients were in the group that had a significant Hering’s dependence, which is to be expected, this group of 5 outliers would account entirely for the outcome obtained in the paper. Even ptosis surgeons who perform posterior surgery would seldom advocate doing so in a patient with an MRD1 below the pupil, and thus there is selection bias to select for a milder ptosis—and thus milder stimulation on the third nerve nucleus in the brain and milder Hering’s effect—in the population undergoing Mullerectomy.

For many years, we have advocated that eyelid surgeons “not go to the dark side” when performing ptosis surgery. We prefer predictable ptosis procedures that re-establish anatomic alignment between the levator aponeurosis and the tarsal plate. We condemn removing normal eyelid structures such as conjunctiva, tarsus, accessory lacrimal structures, and Muller’s muscle when it is the dehisced levator aponeurosis that is the culprit in most adult cases. Our group studied Hering’s dependence along with eye dominance to see if it had any effect on ptosis outcomes, and we found that it made no difference, nor did any of the patients in that study undergo a secondary operation after an average follow-up of 246 days. In addition, in reviewing the senior author’s (R.L.A) cases from 2010, we found that only 3% of cases in over 100 patients underwent any kind of ptosis revision. Thus, we are surprised that the current study had such a high rate of reoperation in the levator advancement group, and we question whether the surgical technique led to this adverse outcome as this is higher than other quoted studies.

We acknowledge the author drawing attention to this important and under-recognized aspect of eyelid surgery (that Hering’s dependence should be checked preoperatively), and we caution all eyelid surgeons that performing unilateral ptosis surgery without considering Hering’s effect can lead to unsatisfactory functional and aesthetic outcomes for your patients. However, we feel that ptosis surgery based on correcting the anatomical defect or resecting the levator aponeurosis gives more predictable results with fewer complications. In addition, we believe that an anterior approach to correct the defect gives more aesthetically pleasing results for the patient and more satisfaction for the surgeon to directly correct the problem. There is a reason we studied eyelid anatomy to identify the structures that lead to aponeurotic ptosis. Ptosis surgeons should use this knowledge to correct the anatomic defect and best help their patients.

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