

Letters

COMMENT & RESPONSE

Considerations on the Role of Algorithm-Based Levator Aponeurectomy in Small Incision External Ptosis Surgery for Involutional Ptosis

To the Editor We read with great interest the article titled “Role of algorithm-based levator aponeurectomy in small-incision external ptosis surgery for involutional ptosis” by Repp et al.¹ The authors clearly described a new surgical algorithm for treatment of involutional ptosis considering the biomechanical property of the superior levator complex. Aponeurotic ptosis is the most common type of acquired ptosis, resulting from involutional changes of the levator aponeurosis as a consequence of its gradual stretching or attenuation of its strength. We congratulate Repp et al for the new technique proposed to control the aponeurosis to standardize the amount of stress placed on it among different patients. The algorithm is very interesting because it allows calculation of the amount of aponeurosis resection needed, minimizing the variable depending on the operator, and thus standardizing the method of surgical correction.

We fully agree that the function of superior levator system must be evaluated preoperatively, but, in addition, the asymmetry between the 2 eyes must be carefully assessed. According to Hering's law, both levator muscles are innervated from a single nucleus, producing equal neural output from both sides so the less affected eyelid may be capable of maintaining a normal level of elevation owing to an excessive nerve stimulation determined by the more ptotic eyelid.² The compensatory retraction of the less affected eye makes it difficult to adjust the balance between the 2 eyes. Furthermore, an assessment of compensation for the superior visual field loss by the recruitment of the frontalis muscle and a long-term functional evaluation of results are important.

Even if the results reported in their article were increased in consistency by the spring scale, the maximum follow-up reported by Repp et al was only 5 to 6 months. We recently published an article evaluating long-term follow-up results after blepharoptosis correction with external levator advancement, considering both functional and aesthetic results.³ The former was evaluated basing on postoperative upper eyelid margin reflex distance (uMRD).⁴ Three years postoperatively, our study revealed a recurrence of blepharoptosis (in 3 of 40 eyes [7.5%])

although minimal, showing a reduction of uMRD. It probably resulted from a decrease of tensile strength of levator aponeurosis during long-term follow-up, which is reported mostly in older patients with a severe degree of ptosis. It may suggest that in older patients affected by severe ptosis, hypercorrection greater than that suggested by Repp et al (a 2:1 ratio) may be useful to maintain more stable, long-term results. Aesthetic results were evaluated according to the British Oculoplastic Surgery Society National Ptosis Survey (BOSSNPS): an outcome was considered successful when the uMRD was 3 to 5 mm. Even when taking into account patients' satisfaction, following the BOSSNPS criteria, symmetry is considered to have been achieved when the interlid (the distance between the borders of the upper and lower eyelids) uMRD difference is 1 mm or less, the interlid crease difference is 2 mm or less, and the interlids show a difference of 2 mm or less.⁵

Alessandro Innocenti, MD
Serena Ghezzi, MD
Marco Innocenti, MD

Author Affiliations: Department of Plastic and Reconstructive Microsurgery, Careggi University Hospital, Florence, Italy.

Corresponding Author: Alessandro Innocenti, MD, Department of Plastic and Reconstructive Microsurgery, Careggi University Hospital, Viale Giacomo Matteotti 42 50132, Firenze, Italia (innocentialessandro@alice.it).

Published Online: December 28, 2017. doi:[10.1001/jamafacial.2017.1981](https://doi.org/10.1001/jamafacial.2017.1981)

Conflict of Interest Disclosures: None reported.

1. Repp DJ, Rubinstein TJ, Sires BS. Role of algorithm-based levator aponeurectomy in small-incision external ptosis surgery for involutional ptosis. *JAMA Facial Plast Surg*. 2017;19(6):490-495. doi:[10.1001/jamafacial.2017.0172](https://doi.org/10.1001/jamafacial.2017.0172)
2. Gay AJ, Salmon ML, Windsor CE. Hering's law, the levators, and their relationship in disease states. *Arch Ophthalmol*. 1967;77(2):157-160.
3. Innocenti A, Mori F, Melita D, Dreassi E, Ciancio F, Innocenti M. Evaluation of long-term outcomes of correction of severe blepharoptosis with advancement of external levator muscle complex: descriptive statistical analysis of the results. *In Vivo*. 2017;31(1):111-115.
4. Innocenti A, Mori F, Melita D, Dreassi E, Innocenti M. Effects of orbicularis oculi flap anchorage to the periosteum of the upper orbital rim on the lower eyelid position after transcutaneous blepharoplasty: statistical analysis of clinical outcomes [published online November 11, 2016]. *J Plast Reconstr Aesthet Surg*. 2017;70(3):385-391. doi:[10.1016/j.bjps.2016.10.019](https://doi.org/10.1016/j.bjps.2016.10.019)
5. Scoppettuolo E, Chadha V, Bunce C, Olver JM, Wright M; BOPSS. British Oculoplastic Surgery Society (BOPSS) National Ptosis Survey. *Br J Ophthalmol*. 2008;92(8):1134-1138.