Discussion: Finesse in Forehead and Brow Rejuvenation: Modern Concepts, Including Endoscopic Methods

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Dr. Sullivan and associates present their endoscopic brow-lift experience in 546 patients. Their technique has evolved from the original 1990s description to improve its reliability and avoid its shortcomings. During development, they have sorted through the various tenets and controversies that exist on the topic to arrive at a successful formula for their practice. The authors touch on numerous issues in this article that invite further discussion. Some different points of view are presented here to contrast with their experience.

Most brow-lift articles focus on how to raise and shape the lateral eyebrow and keep it there. However, the motivation for performing a brow lift should not be to elevate the eyebrow per se, but rather to reveal the natural curve of the lateral supraorbital rim and unload the upper eyelid. This subtle distinction emphasizes a slightly different goal. Elevation of ptotic infrabrow tissue by a brow lift and concomitant removal of redundant skin by upper eyelid surgery restores a crisp shape to the lateral supraorbital rim. This has as much (and maybe more) of an impact on periorbital beauty than the degree of eyebrow elevation achieved. In fact, a more exposed lateral supraorbital rim with only modest lateral brow elevation yields a successful result, like the result the authors show in patient 4. Therefore, the true indication for a brow lift should not be just low eyebrow position, but rather that supraorbital rim definition is so lost that an upper blepharoplasty alone cannot restore it.

One of the main criticisms of the classic endoscopic method is its propensity to cause excessive medial brow elevation and splaying of the eyebrows. This is a byproduct of the technique's efficacy, where superb exposure of the depressor muscle mass and medial anchoring ligaments invites overresection. Transpalpebral resection has been shown to be a less effective procedure and probably because of this avoids these problems.[1] If one accepts the premise that this latter method is nevertheless adequate for the task, it is just a small step to discard the endoscope altogether. The procedure can be performed through a combined transpalpebral and limited forehead incision approach, given that most patients either require concomitant upper eyelid surgery or have the scars from a previous one. The exposure for retrograde forehead dissection laterally is excellent and the procedure more efficient without the extra equipment. The authors state that this option has fallen out of favor; however, one of the articles cited to support this conclusion was about transpalpebral *browpexy* without counterincisions for forehead fixation. Aside from more thorough medial muscle resection and ligament release, an endoscopic approach has no clear advantage except in cases where no blepharoplasty incisions are planned or previous scars exist.

The authors describe a modified approach to fixation to improve reliability. When endoscopic techniques first became popular, it was apparent that the bone-anchoring points were not the problem. Rather, putting sutures into the galea and subcutaneous tissues and expecting them not to cheese-wire through when placed under great tension was the main cause for concern. Multiple points of fixation and use of permanent suture has worked well for the authors in this large series. However, the more elaborate process of making the bone canals and using suture is certainly less efficient than the alternative of drilling one hole and popping in a sutureless device to achieve the same objective. The palpability of the devices many months later in most patients, although problematic in a few, argues for their permanence. Although using absorbable fixation devices entails additional cost, they are quick and easy to use. In addition, fewer and shorter scalp incisions are required.

The authors logically state that the lower of the two eyebrows should be elevated first when the levels are asymmetric. However, differential

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eyebrow elevation of a few millimeters may be beyond the resolution of what brow lifts can accomplish. Attempts to improve symmetry may leave the original "high" side undercorrected. Patients tolerate preexisting asymmetry provided that both sides appear their best and the baseline condition has been pointed out beforehand.

The authors are wary about overresection of upper eyelid skin when performing a simultaneous upper blepharoplasty and brow lift. In actuality, the blepharoplasty skin excision design can be performed as usual, except perhaps for planning the lower limb of the incision beyond the lateral canthus. This should be drawn low enough to prevent a higher than desired upward migration following the brow lift. The authors also cite as one of the advantages of a brow lift the possibility of avoiding the need to carry the eyelid incision past the lateral canthus. However, provided that the incision design is properly done, the lateral eyelid scar is seldom objectionable long term. Although the authors prefer marking the patients upright, marking supine is just as accurate and maybe less awkward.

The authors do not use coronal incisions. There are nevertheless rare but good indications for an open approach. The best candidates are elderly patients with pan-forehead ptosis. Limited incision techniques are usually not as effective in this population because the soft-tissue descent can be so extensive. These patients are beyond the debate of the fine points of medial versus lateral elevation. They require a more dramatic and even elevation across the entire forehead. Another indication for an open technique is relapse following a limited incision approach. Repeating the same procedure would seem pointless. Finally, patients with very low hairlines or deep transverse rhytides seem to do best with a scalp excision technique.

The authors cite a quote from another publication about open brow lifts not being inferior to the endoscopic techniques. In reality, it is probably the other way around: if effective brow elevation is really needed, the open method is the gold standard. The trouble is they are a harder sell to patients. Although a full coronal incision may seem aggressive, the incision is completely hidden and not associated with prohibitive morbidity. It pales in comparison with the visible incisions made today in massive weight loss patients for aesthetic purposes, for example. In any event, advocacy for the technique may be moot given that it is probably not taught much today outside of craniofacial fellowships and for a different purpose.

Scalp advancement is beautifully described by the authors using a previously reported technique.[2] They acknowledge the tradeoff for a visible scar. Although there are methods to minimize it (the authors show an excellent result), the scar nevertheless remains a wild card in the surgical plan.[3] Patient consent is usually dependent on how the concept is sold to them. Pretrichial incisions flirt with creating a permanent stigma and should be considered very carefully. Although a great quality scar can negate concern for its location in any aesthetic procedure, one should generally play the odds to avoid the potential for a bad scar in a bad location. Another issue with scalp advancement combined with a brow lift is that it is inherently more complex, not unlike an augmentation mastopexy. Multiple conflicting goals, in this case raising and lowering, must be achieved simultaneously without compromising either one. Fortunately, these cases are uncommon.

The authors do not say how many of their 546 patients were men, nor do they comment on the general applicability of brow lifts in men beyond the one scalp advancement example shown. Compared with women, brow lifts can appear odd in men, if not feminizing. A safe rule would be not to do them in men. Men typically have low brow position, are used to it, and do not complain about it. Those with brows so low that the infrabrow skin almost rests on the eyelashes can be effectively treated with a combination of an upper blepharoplasty and a browpexy. Although the permanency of the latter is debated and the methodology diverse, they do seem to have value.

The authors do not discuss the need for secondary surgery. Relapse of brow ptosis can occur regardless of fixation methodology. Performing a concomitant upper blepharoplasty, which is indicated more often than not, preserves a partial gain should a relapse occur. Most patients in this scenario have achieved benefit sufficient that they do not seek a secondary brow lift. Young patients that have stiff forehead tissues and do not need an upper blepharoplasty are probably at highest risk for a problematic relapse.

Finally, the authors note that temporal wasting is part of the constellation of aging signs that affect the forehead area. Interestingly, patients are often unaware of it and sometimes uncertain about its significance when pointed out. However, fixing it can make a real difference in the visual perception of the upper face. Although some prefer injectables, fat grafts are a simple adjunctive means to restore softness to the temporal contour. This option should be an integral part of a forehead rejuvenation algorithm despite the vagaries of long-term fat graft survival.

Dr. Sullivan and associates present a highly evolved and time-tested approach to endoscopic

brow-lift technique. Their method both constitutes a reliable formula for the novice and serves as a bellwether for experienced surgeons to compare and contrast their own evolution in brow and forehead rejuvenation concepts.

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