The eyebrow can convey facial expression with even the slightest movement. Unfortunately, emotions such as anger, fatigue, and sadness can be falsely portrayed as the brow ages and moves downward on the facial plane. Contrary to the model suggested by Westmore in 1974,1 where he recommended the position of the peak of the brow at the lateral limbus, current trends indicate that the peak of the brow should be lateral to the lateral limbus,2 while the medial brow should be more linear and closer to the orbital rim.

Various techniques have been described for periorbital rejuvenation and correction of the ptotic brow.3-9 There are multiple indications and clinical findings that influence the surgeon to choose any one of these approaches. One must take into consideration the skin type, the position and shape of the brow, the degree of ptosis, the presence of forehead rhytids, and (more importantly) the position of the anterior hairline and brow symmetry. In addition, cost and recovery issues must also be weighed. The techniques from which to choose include the extensive coronal brow lift, endoscopic procedures, anterior hairline foreheadplasty in the subgaleal, subperiosteal, or subcutaneous planes, and the subcutaneous temporal brow lift.
when central and lateral brow malposition is present in patients with a high frontal hairline. For example, in younger patients presenting for facial rejuvenation, early descent of the lateral brow is often the primary symptom. The resulting lateral orbital hooding cannot be corrected with an upper blepharoplasty alone, whereas a subcutaneous temporal browlift can treat this area effectively while also allowing for variable amounts of lift independent of the contralateral side. Consequently, asymmetry in brow height and shape can be addressed. The technique also limits postoperative hairline elevation, which is favorable in most patients with a hairline that is already high. Furthermore, unlike the endoscopic browlift or the coronal lift, the subcutaneous temporal browlift procedure can be more feasibly performed as an outpatient office-based procedure without the need for expensive equipment or intravenous anesthesia. Reducing such costs is advantageous for many patients, particularly when concurrent procedures are not necessary. By limiting the dissection to the subcutaneous plane, the surgeon is more likely to spare the supraorbital nerve and avoid problematic scalp numbness and itching. In this article, we present our results from a series of patients treated with subcutaneous temporal browlift over nearly four years.

**METHODS**

A retrospective review was conducted of 28 consecutive patients who were treated with subcutaneous temporal browlift by the senior author (JDF) between July 2003 and January 2007. All procedures were performed on an outpatient basis under local anesthesia.

The peak of the existing brow was marked with each patient in the upright position, with the brows reposed. The ideal position and direction of the brow was simulated manually with the patient’s input. The surgeon elevated the brow with the nondominant hand, while holding the marking pen close to the peak of the brow. The brow was released without moving the pen and an imprint was made. The surgeon and the patient then decided on the ideal direction of the lift, either more superior or more lateral. A directional arrow was then drawn, which helped identify the location of maximal skin excision. Taking into account the markings for the existing brow peak and the desired postoperative elevation, the degree of elevation was measured in millimeters. Then, a ratio slightly greater than 2:1 was calculated, which equated to the amount of skin that was required for excision. For example, if 5 mm of elevation was needed, then 12 mm of vertical skin should be excised. The width of the planned excision was determined by the length of the brow that required elevation. An elliptical excision was marked at the hairline and extended into the temporal hair-bearing scalp (Figure 1).

To begin the procedure, the area of dissection was infiltrated with epinephrine-containing lidocaine solution. A total of 15 to 20 minutes were allotted for the epinephrine to take maximal effect (Figure 2). An extremely beveled incision was placed perpendicular to the anterior-most hair follicles, to allow for potential regrowth of the hair through the scar. The subcutaneous plane was elevated from the incision line to a level just superior to the brow.

The medial and lateral extent of dissection depended on the part of the brow selected for elevation during the preoperative marking process. Occasionally, the superficial branch of the supraorbital nerve was evident over the frontalis muscle. Caution should be taken, as with any skin flap, in patients who are smokers; to some degree, less tension should be placed on the skin closure and a more conservative elevation performed. The brow was lifted in a vector ideal for the individual patient, either superiorly or more superior laterally. The elevated flap was incised temporarily to confirm the tension on the closure. Two interrupted 5-0 nonabsorbable monofilament sutures were placed to approximate the central part of the
incision and the dog-ears were trimmed (Figure 3). The markings were confirmed and the redundant skin was excised. For closure, the remainder of the incision was approximated with a running 6-0 nylon suture (Figure 4). In this way, the skin flap was redraped more superiorly over the frontalis and the adhesions reduced the need for suspension of the entire soft-tissue envelope or release of periocular ligaments, as required with deeper lifts. A soft head dressing was applied and maintained for 48 hours. The patient was instructed to sleep with head elevated and avoid blood thinners perioperatively. The patient was evaluated postoperatively for hematomas, infection, or dehiscence.

RESULTS

The charts of the 28 patients included in this series were reviewed for procedure characteristics, demographic information, and complications (Table 1). Five patients underwent a unilateral browlift for asymmetry, twenty-three patients underwent a bilateral procedure, and none of the patients underwent a simultaneous blepharoplasty. The mean age of the patients was 54 years (range, 44-72). Twenty-seven patients were female and one was male. Two patients were smokers. The mean length of follow-up was 10.8 months.

At their six-month follow-up visit, each patient was asked to rate the scar and the effect of the lift. A verbal survey was taken by the nurse and recorded. A four-point scale was provided (ie, poor, average, good, or excellent). Scarring was minimal and rated as “good” or “excellent” by both patients and surgeon. The effectiveness of the browlift was also rated as “good” or “excellent” by all but one patient, who requested a revision for a greater degree of lift and ultimately achieved an “excellent” result. One other patient required a minor scar revision to excise a small dog-ear. There were no incidences of hematoma, infection, numbness, or excessive scarring. Clinical photographs from four patients in this series can be seen in Figures 5 through 8.

Of note, facility costs associated with the procedure averaged $400.

DISCUSSION

Brow elevation is often an essential factor in an attractive periorbital region. For select patients seeking aesthetic treatment of that area, a subcutaneous temporal browlift performed in the office under local anesthesia has proven effective, reproducible, and inexpensive. Specifically, we have found that nonsmoking patients with early signs of brow aging and lateral descent with limited central forehead rhytids are the best candidates for this procedure. Furthermore, this technique is especially useful in brow asymmetry because it allows a greater degree of control when determining the vector and extent of the lift.

Although a coronal lift or endoscopic lift can also technically be performed as an office-based procedure, we believe that most surgeons would prefer to limit such an extensive procedure to a more formal operative setting. We
Figure 5. (A) This 50-year-old woman presented with a primary complaint of brow ptosis. (B) Seven months after subcutaneous temporal browlift with local anesthesia only. Patient and surgeon were pleased with the outcome.

Figure 6. (A) This 63-year-old woman presented with a primary complaint of aging eyes. (B, C) 20 months after subcutaneous temporal browlift with local anesthesia only.
Bidros et al

have performed those lifts more frequently under general anesthesia, when multiple facial rejuvenation procedures were combined on the same patient. This particular review was limited only to patients who underwent their procedures under local anesthesia, so the results of our more aggressive lifts are not included here.

We recognize that this review is too underpowered to act as a true assessment of the outcomes and complications associated with subcutaneous temporal browlift; we suspect that with a larger sample size, hematoma may occur in 1% to 5% of cases. Smoking did not present a risk in this series, but we would caution against wide undermining and excessive tension in these patients. It is important to recognize the limitations of this technique; as with all aesthetic procedures, appropriate patient selection will lead to the best outcome. More aggressive techniques, such as coronal or endoscopic lifts, should be utilized when indicated.

Figure 7. (A) This 51-year-old woman presented with a primary complaint of aging eyes. (B, C) 14 months after subcutaneous temporal browlift with local anesthesia only. Some brow asymmetry remained, but the patient was pleased with the results.

CONCLUSIONS

The subcutaneous temporal browlift is an effective, reproducible, and inexpensive technique that can be performed safely under local anesthesia. This method adds to the array of techniques for facial rejuvenation in the era of minimally-invasive surgery.

Disclosures

The authors declared no conflicts of interests with respect to the authorship and publication of this article.

Funding

The authors received no financial support for the research and authorship of this article.
Figure 8. (A) This 54-year-old woman presented with a primary complaint of brow asymmetry. (B) 28 months after left subcutaneous temporal browlift with local anesthesia only.

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