Cosmetic Ideas
and Innovations

Nonsurgical Lower Eyelid Lift

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Treatment of inherited or age-related hollowing of the lower eyelid has been previously described with autologous fat but not with injectable hyaluronic acid. We describe a novel method for improving the appearance of a hollow periorbital region by injecting hyaluronic acid along the inferior orbital rim and malar bone.

The soft tissues of the periorbital region including the lower and upper eyelids, nasojugal groove, and supraorbital rim may lack volume as an inherited trait or lose volume with age. This gives rise to a hollow area below the lower eyelid and a tired appearance. This hollow produces a shadow, particularly in vertical light, that is difficult to conceal with makeup. The “natural” dark color of the skin on the medial aspect of the nasojugal groove and the periorbital hollow causes patients to appear tired even when they are well rested. The approach to rejuvenation of the periorbital area continues to evolve from strictly surgical procedures to the practice of new techniques that are safer and allow for greater aesthetic control. The hollow may be corrected on a permanent basis with microfat grafting and/or lower eyelid surgery or temporarily with an injectable hyaluronic acid. The correction is performed in the office under local anesthesia, with minimal downtime and discomfort. The correction lasts 5 to 8 months and in some cases up to 1 year and includes minimal complications.

The principle is to fill the deepest part of the infraorbital hollow or nasojugal groove, which extends to the lateral inferior orbital rim. By placing the filler at the deepest level of the hollow, the filler is covered by the periosteum, sub–orbicularis oculi fat, orbicularis oculi muscle, and skin. This multilayer covering conceals the product, allows for ease of manipulation if there are irregularities detected, and allows placement of the material in a large bolus confined to a small area. The large bolus of hyaluronic acid undergoes slow degradation and is placed at a level where the tissue is immobile and will therefore last longer. When filler is placed superficially, it is more readily palpable and visible, particularly when the patient is smiling, and can result in the appearance of a bluish tint to the skin.

MATERIALS AND METHODS

The most important aspect of this treatment is to adequately mark the patient in a seated position before infiltration of anesthetic. Using a semipermanent marker, the depth of the hollow should be marked first. Then, the perimeter of the region to be filled is marked (Fig. 1).

To preserve anatomy and avoid distortion of the soft-tissue covering, a minimal amount of anesthetic is infiltrated into the periosteum. After infiltration with local anesthetic, the tissues are compressed to eliminate distortion (Fig. 2). To achieve maximum vasoconstriction and limit treatment ecchymosis, hyaluronic acid should be injected at least 20 minutes after infiltration of the anesthetic.

For this procedure, only the nonanimal stabilized hyaluronic acid products (Restylane and Perlane; Medicis Pharmaceutical Corp., Scottsdale, Ariz.) have been used. The tech-
The needle is then marched along the bone, focusing on the depth of the hollow. Small amounts (<0.1 ml) are injected. The filler should be palpated for location and possible irregularity and may be assessed by distraction of the soft tissues of the cheek in a downward direction. The needle is then advanced along the rim until the entire region is filled. The most medial aspect of the nasojugal groove is filled by “pushing” the hyaluronic acid with a finger into the area to avoid puncture of the prominent infratrochlear vessels adjacent to the nasal bone. Care must be taken near the infraorbital nerve, as direct injection with either local anesthetic or filler may cause injury. Small amounts of filler under low pressure must be placed to avoid retrograde embolus into a periorbital artery. If resistance to the flow of filler is detected, the needle should be removed and repositioned. The volume required ranges from 0.35 to 1.40 ml of Restylane or Perlane per side. The very hollow eye, with or without the support of the malar bone (negative, neutral, or positive vector) can be corrected by using a larger amount of filler. An initial maximum volume of 1.40 ml per lower eyelid should be used, and the patient should be evaluated for more filler 2 to 4 weeks after the first treatment. If fat pads are sizable, removal of a portion of the fat pad through a transconjunctival approach is recommended followed by the addition of filler to the lower rim, as described above. The addition of filler can be administered immediately...
postoperatively or after any length of time after the surgical intervention. Postinjection treatment includes gentle placement of cool packs so as not to distort or displace the product. Patients should minimize strenuous activity for 48 hours after treatment. If patients can tolerate them, oral antihistamines are prescribed for swelling. Pain medication may be required. Patients should be informed that they will have swelling for 72 hours and bruising for up to 2
weeks. The patient should be assessed for contour irregularity at 1 week. If present, the irregularity can be massaged down or the addition of strategically placed filler should be administered. Occasional ecchymosis may cause early distortion; manipulation should be held off until it resolves.

**Results**

Excellent contour was achieved in all patients. The improved contour of the lower lid gives patients the appearance of being better rested and more youthful by eliminating the infraorbital hollow and its shadows (Fig. 3). The lower eyelid appears shorter in the vertical axis. The procedure gives the appearance of having lower eyelid surgery or a “nonsurgical” eyelid lift. A dramatic difference is seen before (Figs. 4 and 5) and after (Fig. 6) the procedure. Patients have reported that the look of being tired was completely corrected through the use of this technique. In addition, the darkened appearance of the lower lid is improved. The average length of correction is 8 months, with correction in some cases of up to 1 year (Fig. 7). The product is not visible. Repeated injections with Perlane and Restylane improve the longevity of the results. A number of patient types benefit from this procedure. Figure 8, left shows a young woman who had lower blepharoplasty 3 years previously; she was unhappy with the hollow appearance and scleral show. Seven months after her second injection with 0.7 cc of Perlane per side, the patient remained pleased with the result (Fig. 8, right). Figure 9, left shows a male patient with extreme facial hollowing. He has very thin skin/tissues over the malar region, and it is technically very difficult to get an even contour. This patient experienced bruising for 3 weeks and required follow-up manipulation to achieve an even contour. At 3 months after injection, the patient remained very pleased with the result (Fig. 9, right). Figure 10, left shows a 45-year-old woman with periorbital hollowing following lower lid blepharoplasty. At 1 month postinjection, the patient was concerned with persisting fold at the area inferior to the tarsal plate of the lower lid (Fig. 10, above, right). However, 9 months after injection, the patient was more satisfied but wanted more filling of the lower lid skin itself to obliterate this fold (Fig. 10, below, right). She was offered a repeated injection of Perlane or mi-
crofat grafting to restore the lower eyelid and malar region volume.

As a caveat, irregularities may be seen in the first week after injection. These irregularities can be corrected by light massage within 1 to 2 weeks of the initial injection. With massage or the addition of strategically placed filler, all irregularities can be corrected. Eyes with a shallow hollow and taut skin respond best to this procedure. Patients with slack lower eyelid skin, broad flat orbital rims, and very thin periorbital tissue can provide more of a challenge for the physician that is not familiar with this technique. This type of eyelid is difficult to inject; any irregularity of filler in the lower eyelid will be seen more easily. Physicians who are unfamiliar with this procedure should begin with a younger patient with tighter lower eyelid skin and a shallow hollow.

In most patients, bruising and swelling are seen up to 2 weeks after the injections. Ecchymosis can be significant; however, even the more significant bruising should completely resolve within a 3-week period. It should be noted that permanent skin staining has not been observed.
with the use of this procedure. Side effects, such as bruising and swelling, can be lessened by infiltration of the periosteum with local anesthetic with epinephrine (1:200,000). Patients experience mild discomfort that may be treated with ibuprofen or acetaminophen. No major complications have been noted. Blindness has been reported when fat is injected in the periorbital area; however, there have been no cases of blindness or central nervous system emboli reported by the authors with the use of the presented technique.

**DISCUSSION**

The appearance of the eye changes with age because of orbital remodeling. Techniques currently available to patients for correction of a hollow lower lid area include midface lift, microfat grafting, cheek implants, and lower lid blepharoplasty with fat transposition. All of these techniques are invasive and require a prescribed amount of patient downtime; bruising and swelling can last up to several weeks in the case of blepharoplasty. Traditionally, patients seeking

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**FIG. 9.** (Left) Preinjection image of a 54-year-old man with marked facial hollowing. Note the scleral show and very flat malar region with a “polar bear” appearance. (Right) Postinjection with 2.1 cc of Perlane per side.
treatment for a hollow lower lid had few nonsurgical options. Lower lid resurfacing with carbon dioxide or erbium:yttrium-aluminum-garnet laser has become popular and can improve dark pigmentation but does not resolve the appearance of the lower lid area completely.9,10

We propose a novel technique with which to address the concern of patients regarding a dark recessed lower lid appearance with a single in-office procedure with minimal downtime. This technique has produced highly aesthetic results that rival surgical alternatives. This method also preserves the lower orbital fat and prevents the “operated” appearance that may follow conventional blepharoplasty.11 The authors have successfully used this technique in over 400 patients.

CONCLUSIONS

We have presented a novel method that improves the contour of the periorbital area. This method has been shown to be reproducible in over 400 patients. The advantages of this tech-
The technique includes minimal downtime, ease of procedure, and safety.

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REFERENCES