The aging face in patients of color: minimally invasive surgical facial rejuvenation—a targeted approach

MONTE O. HARRIS

Department of Dermatology, Howard University College of Medicine, and Department of Otolaryngology-Head and Neck Surgery, Division of Facial Plastic and Reconstructive Surgery, Georgetown University School of Medicine, Washington, DC

ABSTRACT: We are in the midst of exciting times from a demographic standpoint as the population of darker-skinned people grows exponentially in the United States. Although there is a growing demand for facial cosmetic procedures amongst people of color, the total number of individuals undergoing surgical facial rejuvenation is dwarfed by the current Caucasian market. In order to provide optimal options for facial rejuvenation, cosmetic surgeons must have an underlying appreciation for the dynamic interplay among ethnicity, facial morphology, and the progression of aging. The purpose of the present article is to outline the minimally invasive surgical options for facial rejuvenation best suited for the patient of color. Although the population of individuals with darker-pigmented skin is quite vast, the present paper will focus on individuals of African descent, with whom the author has the most experience. Preferred surgical techniques include blepharoplasty, autologous facial fat transplantation, percutaneous cheek lift, and submental liposuction. Cutaneous surgeons familiar with soft-tissue surgery and facial anatomy should feel comfortable performing these techniques.

KEYWORDS: aging face, ethnic, plastic surgery

In today’s society, individuals are seeking less invasive procedures with minimal downtime for facial rejuvenation. Patients are willing to accept less dramatic changes in exchange for the option of less downtime. Now, with minimally invasive procedures, targeted surgical rejuvenation programs can be fashioned which specifically address localized stigmata of aging in a more conservative manner. We are truly in the era of “less is more” from the standpoint of facial rejuvenation. Given the increased risk for hypertrophic scarring in individuals with pigmented skin, less invasive options with smaller incisions are preferred. The targeted approach for facial rejuvenation consists of minimally invasive procedures to address aging in areas where the external stigmata are most evident, most notably the eyes, cheeks, and neck. By addressing the cutaneous and morphological components of facial aging, a graduated approach can be fashioned evolving from less invasive procedures directed at skin rejuvenation to more invasive procedures aimed at reversing the soft-tissue and bony sequelae of aging. It is important to outline from the onset all the measures which a patient may benefit from to illustrate the true synergy of how targeted small steps along a planned pathway can lead to big results. In the present author’s practice, the initial consultation is lengthy since time is taken to educate the patient on skin care and the impact of ethnicity on morphologic aging. Building confidence with the patient of color through early success with noninvasive cosmetic measures is essential. By providing a road of transition, trust and confidence can be established which will ultimately lead to better aesthetic outcomes as realistic expectations are fostered.

Address correspondence and reprint requests to: Monte O. Harris, Cultura Cosmetic Medical Spa, 5301 Wisconsin Avenue, Suite 110, Washington, DC 20015, or email: drharris@culturamed.com.
Understanding the nuances of facial aging in people of color is critical for optimizing aesthetic outcomes. It has been commonly accepted that individuals with skin of color exhibit less severe facial aging when compared to their lighter-complexioned counterparts. This concept is unchallenged if facial aging is addressed from the singular perspective of photo-damage. In general, the morphological features which we attribute to facial aging reflect underlying changes in the nature and position of facial skin, subcutaneous soft tissues, and the bony facial skeleton. In the present author's opinion, when taking into account features of aging such as fat atrophy, gravitational soft-tissue redistribution and bone remodeling, people with skin of color have a tendency towards premature aging in some areas and delayed aging in others (FIG. 1).

**Rejuvenation of the upper face and eyes**

The first noticeable signs of facial aging are frequently localized to the upper face and eyes. Brow ptosis in African Americans seems to occur to a lesser degree and a decade later in life than...
in Caucasians (1). Whereas descent of the brow becomes noticeable in the Caucasian patient in the third decade, it is typically not a significant feature of African American aging until much later. As a result, upper face aging in African Americans is most commonly localized to the area around the eyes. Common complaints include upper eyelid fullness with excess skin, dark circles and hollowing beneath the eyes, lower eyelid bags, and wrinkles. As aging progresses, ptosis in individuals of African descent is commonly accompanied by rounding of the lateral canthus and scleral show.

**Blepharoplasty**

Blepharoplasty is a minimally invasive procedure that involves removal of excess eyelid skin and sculpting of prolapsed fat. Excision of redundant skin and fat helps to reduce the signs of aging in the upper and lower eyelids. Upper-lid blepharoplasty can be performed safely in people with skin of color without significant risk of adverse scarring (FIG. 2). Because of the thinness of the upper lid skin and lack of wound closure tension, the possibility of keloid or hypertrophic scarring is almost nonexistent. Upper-lid blepharoplasty in individuals of African descent does not vary significantly from the standard procedure for Caucasians. Not infrequently, more aggressive sculpting of the brow fat pocket, and repositioning of a prolapsed lacrimal gland, may be indicated in the African American patient (2). Preoperative evaluation should include a general medical history, visual acuity testing, and an ophthalmic medical history paying particular attention to symptoms of dry eyes.

Projected skin incisions for blepharoplasty are marked with the patient seated in an upright position. The initial lid marking is at the natural upper eyelid crease. In African Americans, the upper eyelid crease typically sits approximately 6–8 mm above the lid margin in contrast to individuals of Northern European descent, whose upper lid crease rests 8–10 mm above the lid margin (1). The relatively lower position of the upper eyelid crease contributes to upper lid fullness commonly seen in African Americans with aging. Upper eyelid fullness resulting from medial fat pad prolapse and lateral lacrimal gland ptosis is also commonly observed in African-Americans. The superior aspect of the upper-lid incision is demarcated, incorporating redundant skin to be excised. Care is taken to maintain a distance of approximately 8–10 mm between the upper limb of the incision and the inferior aspect of the brow. Once the marking is complete, xylcaine 2% with 1:100,000 epinephrine is used for local anesthesia. Local anesthesia along with a mild sedative such as Valium is typically all that is needed to perform upper blepharoplasty in the office setting. The present author prefers a Bard Parker No. 15 blade to make the skin incisions because the cold steel incision creates the least collateral skin trauma in comparison to laser and radiofrequency incisional techniques. After skin incision, dissection and fat sculpting can be performed with any of the above modalities. Skin closure is accomplished with a running 6–0 prolene in a subcuticular fashion.

Special consideration is necessary when performing lower eyelid surgery in African-Americans. The morphologic combination of ptosis and infra-orbital hypoplasia common to individuals of African descent places this population at higher risk for lower lid malposition following blepharoplasty (3). The present author prefers a transconjunctival approach as a means of minimizing the chance of lower lid retraction and eliminating the risk of adverse scarring from a transcutaneous incision. At times, a secondary lower-lid pinch excision of skin is undertaken to remove excess skin following removal of protruding lower-lid fat pads. Lower-lid tightening procedures may also be necessary to stabilize the lid and prevent a downward pull after surgery.

**Rejuvenation of the midface**

Early aging is evident in individuals of African descent in the midface region. The midface is bounded by the malar eminence and anterior border of the masseter laterally, the inferior orbital rim superiorly, and the nasolabial fold medially. Conceptually, the lower eyelid complex may be viewed as the roof of the midface. As a result, lower-eyelid signs of aging usually occur concomitantly with midface aging during the thirties. With midface aging, the malar fat pad descends from its location overlying the infra-orbital rim and accumulates along the nasolabial fold (4). Consequently, there is loss of the soft-tissue fat cushioning along the inferior orbital rim, leading to a hollowed appearance.
Reversal of midface aging can be addressed by volume replacement (autologous fat transplantation) and repositioning of ptotic malar fat.

**Autologous fat transplantation**

Autologous fat transplantation has been championed by many as an effective means to restore volume loss in the midface (9–11). Contemporary fat infiltration techniques stress the importance of multilayer microdroplet infiltration using blunt cannulas. Facial fat transfer is particularly useful for improving infra-orbital hollowing and camouflaging infra-orbital rim exposure by malar fat ptosis. The thighs, buttocks, and abdomen are common donor sites. The donor site is infiltrated with a mixture of normal saline and xylcocaine 1% with 1:100,000 epinephrine for local anesthesia. A puncture is made with an 18-G NoCor needle (Becton Dickinson & Co., Franklin Lakes, NJ). Fat is harvested using a two-holed blunt Coleman cannula connected to a 10-cc syringe. Gentle manual suction on the syringe plunger allows for aspiration of nontraumatized fat parcels. For midface rejuvenation, the present author typically harvests approximately 40 cc of nonpurified fat aspirate. After harvesting, the fat is purified and transferred to 1-cc syringes, as described by Coleman (9). It is particularly important to minimize mechanical trauma to the delicate parcels of fat during the harvesting and transfer phases.

Xylcocaine 1% with 1:100,000 epinephrine is infiltrated at the planned incision site for midface fat volume replacement. An 18-G needle is used to make a small stab incision approximately 1 cm lateral to the orbital rim, just below the level of the lateral canthus. This allows for placement of 1-2 cc of fat straddling the infra-orbital rim. The fat is placed deep conceptually as an intramuscular injection along the fibers of the inferior portion of the obicularis oculi muscle. A separate puncture site lateral to the alar rim is used to feather fat in small increments to further correct infra-orbital hollowing. Small parcels of fat are placed with multiple passes in a fan shaped orientation using the Coleman technique (9). The injection is begun deep just above the periosteum of the maxilla and carried more superficially to within 3–4 mm of the dermis. The superior extent of volume replacement is at the level of the infra-orbital rim (FIG. 4).

On average, anywhere from 6 to 10 cc of fat per side is necessary to restore volume loss in the inferiomedial aspect of the lower lid and midface. It is not necessary to suture the injection incision sites, which typically heal quite inconspicuously.
Facial Fat Transfer

Fig. 4. Facial fat transfer.

Percutaneous midface lift

Repositioning of the ptotic malar fat pad represents a key procedure for rejuvenating midface aging (12,13). In African Americans, the procedure can be quite useful in addressing localized midface aging in a minimally invasive manner. The absence of visible incisions with short recovery time is desirable in this population of patients, who are historically apprehensive of facial aesthetic surgery. The percutaneous midface lift is particularly useful in lessening the fullness which accumulates along the nasolabial fold in individuals of African descent. Coupled with autologous fat transfer to fill hollowing beneath the lower lid, the percutaneous technique is an ideal means for restoring youthfulness to the midface.

Facial markings are made delineating the insertion points of the suture, the projected pathway of the Keith needle, and the temporal incision anchoring point (12). The percutaneous cheek lift repositions the malar fat pad through a 2-cm incision just posterior to the temporal hairline. Puncture sites are made with an 18-G needle adjacent to the nasolabial fold at the level of the alar base. Then 2-mm Gortex bolsters affixed to a 4-0 prolene suture are placed percutaneously to elevate the malar fat pad and anchor it in an elevated position to the deep temporalis fascia (Fig. 5). The procedure may be performed under local or general anesthesia.

Fig. 5. Percutaneous cheek lift.

Rejuvenation of the lower face

Individuals of African descent demonstrate lower-face aging evidenced by jowling in a delayed fashion (1). In many cases, excess localized submandibular fatty deposits may be present because of bony chin underprojection despite having a smoothly contoured jaw line. The frequent combination of isolated submental fat accumulation without excessive jowling in the presence of thicker skin with preserved elasticity makes submental liposuction a favorable minimally invasive alternative to the facelift in African Americans. Whereas Caucasians often require a facelift to diminish the loose skin created by submental liposuction, patients of color with thicker skin and preserved elastic integrity frequently do not. The risk of hypertrophic
scarring associated with the facelift incision in pigmented skin is also avoided.

**Submental liposuction**

For submental contouring, preoperative marking is essential for achieving optimal aesthetic outcomes. Facial landmarks marked include the sternocleidomastoid muscle, the hyoid bone, and the mandibular angle. These landmarks help define the extent of subcutaneous tunnel dissection. The patient is marked in an upright sitting position because fatty accumulations frequently shift when individuals are supine. Care should be taken to recognize the presence of prominent submandibular glands and make the patient aware preoperatively that they will not be reduced in size following the procedure.

Submental liposuction is rarely performed as an isolated procedure; it is typically a component of a minimally invasive facial rejuvenation program including one or all of the procedures discussed above. Local anesthesia using xylolacaine 1% with 1:100,000 epinephrine mixed with marcaine 0.25% is infiltrated in the area of fatty excess.

A 4-mm liposuction cannula is introduced through a 5-mm incision in the submental crease. Subcutaneous tunnels are created through the area to be treated without suction pressure. Radiating tunnels are created with the point of fulcrum at the submental crease incision site. The appropriate plane of dissection is just deep to the dermal-subcutaneous junction. The 4-mm liposuction cannula is then rapidly advanced and retracted through the fatty deposits via the preformed subcutaneous tunnels. When performing submental liposuction, care is taken to orient the cannula lumen away from the dermal surface. Vigorous suction against the dermis may cause injury to the subdermal plexus, with resultant scar formation and postoperative surface irregularities (14). Sculpting and feathering are performed with smaller, less aggressive 2- or 3-mm cannulas. Postoperatively, a compression submental sling is fashioned with a 6-inch ace bandage. The patient is instructed to wear the dressing continuously for the initial postoperative week, and then at night for the following three to four weeks.

**References**