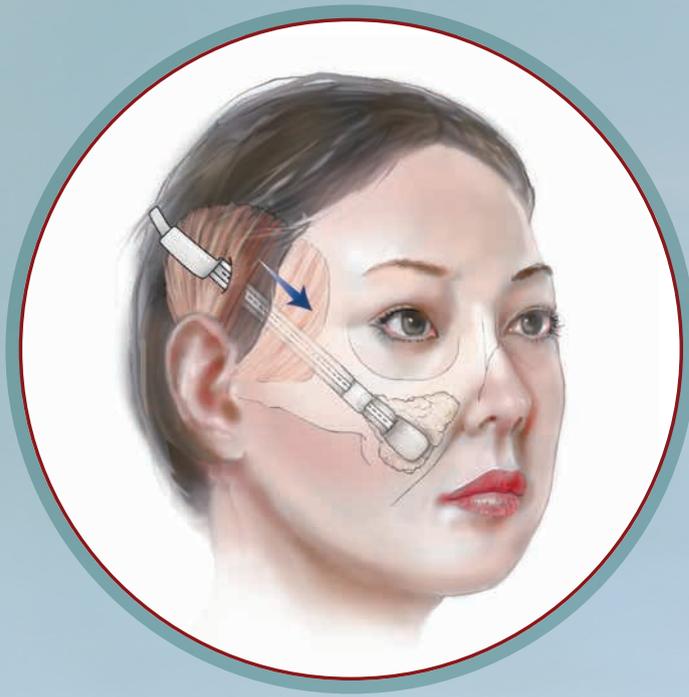


PART III



REJUVENATION SURGERY OF THE FACE

SPECIAL CONSIDERATIONS IN REJUVENATION SURGERY OF THE ASIAN FACE

Daping Yang, Lee L.Q. Pu

Facial rejuvenation surgery in general is a demanding procedure for Asians. There are a number of differences between Asians and whites in terms of facial anatomy, facial aging, and expectations regarding surgical alteration of the face. The facial rejuvenation procedures and expectations of Asian patients can be quite different from those of white patients. In this chapter we will describe the anatomy of Asian faces and facial aging in Asians, present a comparison of aging between Asians and whites, and discuss preoperative evaluation for facial rejuvenation surgery, the common approaches for Asian facial rejuvenation, the combination of various approaches to facial rejuvenation surgery, the expected outcomes, and the common problems in Asian facial rejuvenation surgery.

ANATOMY OF THE ASIAN FACE

The Asian face is anatomically distinct from the white face. The Asian face is characterized by a thick dermis, dense fat both superficial and deep to the superficial musculoaponeurotic system (SMAS), a relatively prominent zygoma and mandibular angle, and a relatively flat nose. Because of these characteristics, there are some differences between Asians and whites in the main components of the face that affect the aging process (Table 16-1).

These specific anatomic features often dictate the rate and manner of facial aging. First, in most Asian patients, the skin is thicker and more fibrous than the typical skin of white patients. The combination of increased superficial fat and a thickened dermis in Asian patients lessens the incidence of superficial rhytids. The dense fat and fibrous connections between the superficial fascia and deep fascia of most Asians diminish the amount of soft tissue ptosis in their midfacial tissue. For these reasons, the midface in Asians usually has very few rhytids and only minimal to moderate sagging as the patient ages. However, because of the dense fibrous attachments between the fascial layers, a surgical rejuvenation procedure usually does not provide as much tissue lift as it does in white patients. In addition, the increased skin density in Asians is associated with greater pigmentation.

Table 16-1 Differences Between the Facial Anatomy of Asians and Whites

Featured Anatomy	Asians	Whites
Dermis	Thick	Thin
Fat/fibrous attachment	Dense	Less dense
Zygomatic-mandibular angle	Prominent, wide	Relatively flat
Nose	Flat or underprojected	High

Second, the facial skeleton in Asians consists of a strong and wide zygomaticomalar region. A prominent malar eminence is of great assistance to the surgeon, because it provides the patient with excellent surgical results. “High cheekbones,” as they are often described, are classically associated with youth and beauty. High cheekbones serve as the scaffolding that enables the surgeon to suspend the ptotic tissues of an aging face. However, high cheekbones with significant submalar soft tissue volume loss may emphasize the facial skeleton, projecting an aged appearance. Ptotic and atrophic midface tissue not only accentuates the nasolabial fold and other retaining ligaments, but also creates depressions and hollowness in the submalar and lower eyelid region. Additionally, Asians typically have more vigorous fibroplasia during wound healing. The greater fibroblast reaction in Asians may be associated with prolonged erythema and postauricular hypertrophic scarring during scar maturation.

Finally, the facial muscles in Asians are slightly thicker than those in whites. However, central dehiscence of the platysma muscles of the neck is less common in Asians, resulting in less platysma muscle banding.

FACIAL AGING IN ASIANS

Mild Aging

A patient with mild aging is usually in her late thirties or early forties with aging that is primarily evident in the face (Fig. 16-1). She has early slight lateral brow descent, tear troughs, nasolabial folds, jowls, and cervical laxity, but her skin elasticity is still good.

Recently, more Chinese women at a younger age, before the onset of significant signs of facial aging, are seeking facial rejuvenation in our clinics. Most of these women are in their forties and are at the peak of their career. The overt signs of facial aging are noted in most patients around the age of 40 and are generally periorbital in location. The cause of these changes is the combined effect of gravity and the activity of the orbicularis oculi muscle. Patients with facial aging most frequently complain that they look tired despite being well rested.

Moderate Aging

Patients with moderate aging are usually in their late forties to early fifties, with moderate lateral brow descent, malar fat pad descent with tear troughs and malar grooves, nasolabial folds, jowls, and moderate cervical skin laxity (Fig. 16-2). Submandibular and submental fat are usually present, and they may have microgenia.



Fig. 16-1 This 39-year-old woman presented with midfacial ptosis with a tear-trough deformity and hollowness in the periocular region. A midface lift with lower blepharoplasty was performed. Her facial shape and periocular region have changed as a result of facial malar fat pad repositioning.

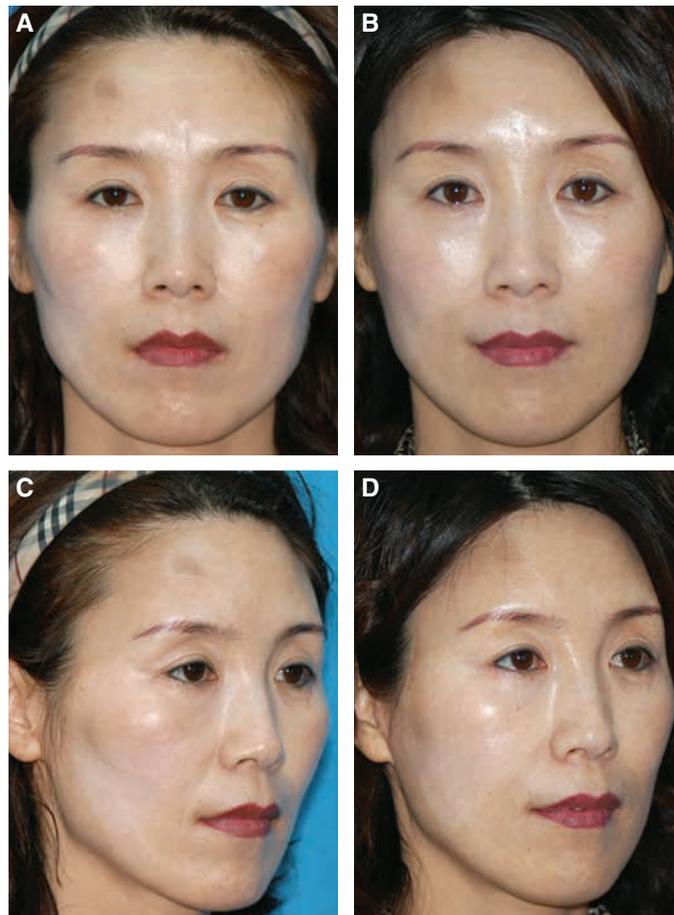


Fig. 16-2 This 48-year-old woman presented with a hollowed effect along the periocular and prepatrid regions. To volumetrically enhance the submalar region, we used an oblique SMAS vector to reposition a greater volume of fat into the submalar region, allowing the periocular and prepatrid regions to appear fuller. Her facial shape has changed as a result of facial malar fat pad repositioning from the lower anterior midface into the upper lateral midface and filling the areas of deflation.



Fig. 16-3 This 55-year-old woman presented after significant weight loss. She had facial deflation, a strong malar eminence (most significantly on the left side), and a wide bizygomatic diameter. After undergoing a face lift, she has an improved appearance of the lower two thirds of her face because of repositioning of the malar fat pad and jowl SMAS layer. The aesthetic relationship between the malar and submalar regions has also improved.

Severe Aging

Patients who exhibit severe signs of facial aging are usually in their late fifties and sixties (Fig. 16-3). They have significant lateral brow descent, malar fat pad descent with deepened tear troughs and malar grooves, nasolabial folds, jowls, moderate cervical laxity, and submental and submandibular fat. The cervical skin elasticity of these patients is poor, and skin folds and deep creases below the cricoid are often present.

COMPARISON OF AGING IN ASIANS AND WHITES

Anatomic differences between Asians and whites are manifested in skin thickness and texture, patterns of fat accumulation, and skeletal structure. In general, increased dermal thickness may account for a substantially lower incidence of fine facial rhytids in both darker-skinned Asians and Asians with a fair complexion compared with whites of an equivalent age. This may account for the myth that the Asian face ages slower than the white face. Actually, a considerable number of fair-skinned Asians do develop fine wrinkles as aging progresses; however, Asian skin tends to respond to sun exposure and the aging process with an accelerated development of pigmented dermatoses, compared with the skin of whites. Also, skin malignancies of all types are significantly less common in Asians.

On the other hand, the Asian face and neck tend to accumulate more fat during the aging process, particularly in the jowls, nasolabial mound, buccal area, and submental region, compared with whites of a comparable age. The clinical significance of fat accumulation in these areas is accentuated by the skeletal structure of the Asian face, such as the prominent malar eminences associated with a relative deficiency of the premaxillary region, which results in shallowness of the midface and deepening of the nasolabial folds. Wide, prominent mandibular angles are often present in Asians, contributing to a square, flat face. In other patients, facial aging is often accompanied by atrophy of fat in the buccal region and the temporal fossa. Table 16-2 summarizes the differences of facial aging between Asians and whites.

Table 16-2 Comparison of Facial Aging Between Asians and Whites

Features	Asians	Whites
Fine facial rhytids	Less common	Common
Skin pigmentations	Common	Less common
Fat accumulation over face and neck	Common	Less common
Jowling, platysmal banding, and excess neck skin	Less common	Common
Location for early signs of aging	Periocular region and midface	Lower face

PREOPERATIVE ASSESSMENT

Successful rejuvenation of the aging face and neck demands a careful assessment of various factors that may contribute to the deformity manifested by each patient. There are two keys to successful surgical rejuvenation: management of midfacial ptosis and management of facial volume loss. Successful facial rejuvenation begins with the surgeon's understanding of the mechanisms of midfacial ptosis and its corrective methods, using malar fat pad elevation, accompanied by the injection of filler materials into the nasolabial folds.

When analyzing a patient for facial rejuvenation, the surgeon intuitively evaluates facial shape and contour. Restoration of malar highlights and malar volume is essential to improve facial shape. Restoring the shape is better than trying to tighten a "loose" face. To consistently improve facial shape in face lifting requires that the surgeon accurately understand the anatomic changes that have occurred as the patient ages, appreciate the importance of underlying skeletal support in formulating the treatment plan, and incorporate his or her aesthetic vision into a surgical approach that is appropriate for the patient.

Because facial skeletal configuration is asymmetrical in most individuals, the SMAS repositioning vectors should be specific for both sides of the face. The vector in which the SMAS is repositioned has a significant effect on the location and volume of elevated facial fat. The postoperative facial shape is influenced by the SMAS vectors and these should be determined for both sides of the face before surgery, because it is difficult to make vector judgments with the patient recumbent during the procedure. Vertical SMAS repositioning provides a larger amount of fat for enhancing the malar eminence, and it allows a reduction in fullness within the submalar region, because fat is forced vertically. If the SMAS is vectored more obliquely, less fat volume is brought into the malar region and more fat volume is repositioned into the submalar region. Therefore oblique SMAS repositioning is helpful in elderly patients who appear gaunt over the buccal recess, because it allows the surgeon to volumetrically enhance the submalar region.

COMMON SURGICAL APPROACHES

In our practice, surgical facial rejuvenation remains the standard for long-lasting improvement of the anatomic changes of facial aging. Despite the many long-term benefits of traditional face-lift surgery for white patients, there is a paucity of studies on patient satisfaction with surgical facial rejuvenation among Asians. A lack of peer-reviewed data often leads the plastic surgeon to rely solely on his or her experience to counsel the Asian patient, but this approach is subject to significant bias. The benefit of face-lift surgery relies on the longevity of the facial rejuvenation; however, this is hard to explain to an Asian patient, because it

is difficult to quantify the longevity of face lifts and to prove the superiority of one face-lift technique over another. We have found that patients younger than 50 years of age who undergo face-lift surgery tend to have greater long-term satisfaction with so-called *maintenance face lifts*.

Special attention should be taken when planning a facial rejuvenation procedure for an Asian patient. Although the goals for rejuvenation of the aging face and neck are the same for Asians as for whites, anatomic variations dictate a greater emphasis on the management of tissue ptosis, particularly regarding lateral brow descent, malar fat pad descent, with deepened tear troughs and malar grooves, and fat accumulation in the nasolabial folds and jowls. The anatomy of the Asian face does not necessitate substantial modification of the surgical techniques for successful facial rejuvenation. Because the primary cause of facial aging is ptosis of the skin and subcutaneous fat, the most effective technique for the Asian face is to restore the tissue to a more youthful position. In addition, fillers or fat grafting can also be employed to enhance the results during or after facial rejuvenation surgery, because the atrophy of soft tissue in the face is corrected further.

Patient s With Early Aging

Patients showing early signs of aging do well with liposuction of the neck and jowls, wide subcutaneous skin undermining, and lateral SMASectomy or plication. No retroauricular incision is necessary to improve the neck along with the face (see Fig. 16-1).

Patient s With Moderate Aging

Liposuction of the neck and jowls along with lateral SMASectomy or plication produces a good result in patients with moderate aging. If indicated, a chin implant enhances the result. A retroauricular incision is usually not required, but a short retroauricular incision can be made to correct a dog-ear at the earlobe (see Fig. 16-2).

Patient s With Severe Aging

A lateral SMASectomy or plication along with liposuction of the neck and jowls produces a good result in patients with severe aging. If redundant skin is present at the earlobe after tissue redraping, it can be removed with a short retroauricular incision (see Fig. 16-3).

Some patients in their sixties with significant jowls and active lax platysma bands are not good candidates for a short-scar rhytidectomy. These can be presented to the patient as a compromise that keeps open the option of extending the retroauricular incision if necessary. Laterally and posteriorly, a short-scar rhytidectomy is usually necessary to undermine over the mastoid and sternocleidomastoid to obtain proper tissue redraping. Excess cervical skin must be tailored into the retroauricular sulcus. As a general rule, it is not worth compromising the final result for a shorter scar.

Combination Approaches

Depending on the different facial regions, there are many combined approaches that can be considered as treatment options (Table 16-3).

Forehead and Brow Complex

The aging process in the forehead and brow complex requires specific management. When weighing treatment considerations, the surgeon should think of rhytids and ptotic tissue as two independent processes. The dynamic forehead and glabellar rhytids should be treated by using neuromuscular paralytic agents such as botulinum A toxin. Deep glabellar and forehead rhytids can be improved by using fillers such as

Table 16-3 Treatment Considerations With Combined Approaches by Region

Region	Treatment Considerations	Combined Approaches
Forehead and brow complex	Endoscopic brow lift	Botulinum A toxin, hyaluronic acid
Periorbital region	Midface lift	Botulinum A toxin, fat grafting
Midface	Midface lift	Fat grafting
Lower face and neck	Face and neck lift	Fat grafting or injectable fillers

hyaluronic acid. Brow ptosis is almost always treated surgically. Coronal and endoscopic brow lifts are the most commonly used techniques. The *pretrichial forehead lift*—making an incision a few millimeters within the hairline—should be considered in patients who have a high hairline.

Eyelid and Periorbital Region

Dynamic rhytids in the crow's-feet can be also treated with botulinum A toxin. Upper blepharoplasty has become standardized, and lower blepharoplasty can be performed using the skin–muscle flap techniques. Patients with a tear-trough deformity may need to undergo fat transfer. A significant double-convexity deformity should be treated with midface lifts and volume restoration using soft tissue fillers. A midface lift should be considered in patients with lower lid laxity. Treatment considerations in periorbital rejuvenation should always include a midface lift

Midface

Individuals with early signs of aging can be treated with fillers to restore facial volume, efface the nasolabial fold, and improve depressions near the lower eyelid. Patients with moderate midface ptosis without significant volume loss can be surgically treated with a midface lift. Patients with advanced volume loss will additionally require volume enhancements through fat grafting.

Lower Face and Neck

The lower face and neck require a combination of surgical and nonsurgical methods to achieve the best possible aesthetic outcome. The perioral region, for example, is a very difficult area to treat surgically. Soft tissue fillers and skin resurfacing are indispensable tools in the management of this area. The marionette furrows are also not significantly improved with face-lift techniques and almost always require fat grafting or injectable fillers.

Patients with microgenia are candidates for chin augmentation. Chin augmentation with alloplastic chin implants is a straightforward and excellent procedure in patients with mild-to-moderate microgenia and a shallow labiomental sulcus. Sliding genioplasty is a technically more demanding operation that should be reserved for patients with vertical microgenia or a deep labiomental sulcus. The jowls are very well treated with most types of face lifts including the deep plane rhytidectomy, lateral SMASectomy, and short-flap SMAS rhytidectomy. The prejowl sulcus is difficult to address, even with aggressive face-lifting techniques. Extended chin implants can successfully address this region and should be considered if the prejowl sulcus is an aesthetic complaint that the patient wants to have remedied.

Suction-assisted lipectomy, corset platysmaplasty, chin augmentation, and cervicofacial rhytidectomy are indispensable techniques for neck rejuvenation. In patients who do not desire surgical intervention, isolated platysmal banding can be successfully treated with high doses of botulinum A toxin.

DISCUSSION

Asian women are increasingly requesting procedures with minimal recovery, minimal cost, minimal risk, and maximal benefit with a natural-appearing and long-lasting result. Most patients are familiar with the “pulled,” “windswept,” and “operated” look that is the hallmark of traditional rhytidectomy. These obvious defects result from a misunderstanding of the process of release and resuspension. We feel that each face lift must be individually determined. The adjustments necessitated by each patient’s unique anatomy are the key factors to a natural-appearing result. We advocate a fresh and mature look after the face-lifting procedure and a reasonably fast recovery. We also advocate the need for volume repletion in modern facial rejuvenation with fat transfer and alloplastic implants to correct soft tissue atrophy.

PEARLS FOR SUCCESS

- Increased fibroplasia, often associated with wound healing, requires meticulous surgical execution and minimal wound tension to create optimal cutaneous scars.
- Anatomic variants must be recognized to customize surgical procedures.
- Restoring facial shape is better than trying to tighten a loose face.
- To consistently improve facial shape, the surgeon must accurately understand the anatomic changes that have occurred in aging for any particular patient, appreciate the importance of underlying skeletal support in formulating a treatment plan, and incorporate his or her aesthetic vision into a surgical approach that is appropriate for the specific patient.
- The complete tissue release of surgical planes is necessary before fixation and closure can be performed.
- Lower lid retraction, ectropion, and canthal malposition can be corrected through the midface procedure in conjunction with the orbicularis sutures.
- Surgical rejuvenation procedures can create a long-lasting, natural appearance.

Additional Readings

- Baker DC. Lateral SMASectomy. *Plast Reconstr Surg* 100:509-513, 1997.
- Barton FE Jr. Rhytidectomy and the nasolabial fold. *Plast Reconstr Surg* 90:601-607, 1992.
- Connell BF, Semlacher RA. Contemporary deep layer facial rejuvenation. *Plast Reconstr Surg* 100:1513-1523, 1997.
- Hamra ST. Composite rhytidectomy. *Plast Reconstr Surg* 90:1-13, 1992.
- Owsley JQ Jr. SMAS-platysma face lift. *Plast Reconstr Surg* 71:573-576, 1983.
- Pitanguy I. Facial cosmetic surgery: a 30-year perspective. *Plast Reconstr Surg* 105:1516-1526; discussion 1527, 2000.
- Rohrich RJ, Pessa JE. The fat compartments of the face: anatomy and clinical implications for cosmetic surgery. *Plast Reconstr Surg* 119:2219-2227; discussion 2228-2231, 2007.
- Shirakabe Y. The Oriental aging face: an evaluation of a decade of experience with the triangular SMAS flap technique in facelifting. *Aesthetic Plast Surg* 12:25-32, 1988.
- Stuzin J. Restoring facial shape in face lifting: the role of skeletal support in facial analysis and midface soft-tissue repositioning. *Plast Reconstr Surg* 119:362-376; discussion 377-378, 2007.
- Stuzin J, Baker TJ, Baker TM. Refinements in face lifting: enhanced facial contour using vicryl mesh incorporated into SMAS fixation. *Plast Reconstr Surg* 105:290-301, 2000.
- Stuzin JM, Baker TJ, Gordon HL. The relationship of the superficial and deep facial fascias: relevance to rhytidectomy and aging. *Plast Reconstr Surg* 89:441-449; discussion 450-451, 1992.