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Management of the Midface

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Traditional techniques for facial rejuvenation have preferentially focused on rejuvenation of the lower face. Before the 1990s, treatment of the aging face was synonymous with a lower facelift and blepharoplasty, regardless of individual patient's anatomy. Often, the upper and midface were inadequately addressed resulting in suboptimal facial harmony. The contribution of the upper two thirds of the face to the stigmata of aging has since become well established. Deepening of the nasolabial fold owing to descent of the malar fat pad was recognized early as a signature feature of the aged face. Hamra's deep plane rhytidectomy, first reported in 1990, was the first technique that showed dramatic improvement of the midface [1]. This procedure involves blunt finger dissection in the infraorbital region to separate the thick subcutaneous cheek fat from the zygomaticus major and orbicularis oculi muscles and lateral advancement of the midface flap, resulting in dramatic improvement of the nasolabial fold.

More recently, the effects of malar descent on the orbital complex has become recognized as a central feature of the aging process. The vertical elongation of the lower eyelids, with bony exposure of the infraorbital rim and the subsequent creation of a double contour irregularity are key changes that modern surgical procedures must address to achieve ever more optimal results. Consequently, the last 15 years have seen many advances in face lift techniques focused on the midface [2]. Along with the deep plane rhytidectomy, other methods for midface lifting have been developed, including the lower-eyelid approach to midface lifting and the midface sling. Recently, retained barbed suture techniques have received much attention in their ability to suspend the midface with minimal downtime. All these techniques, however, have inherent disadvantages. One concern with the deep-plane rhytidectomy is the vector of pull, which is more lateral and not superolateral; thus, the degree of malar fat pad elevation is suboptimal. The lower eyelid approach has problems with adequate fixation and its inability to address redundant temple skin once the midface is elevated. The newer techniques such as the midface sling and barbed suture suspension carry many doubts about longevity of results.

The advent of endoscopic techniques in the early 1990s first used by Core and coauthors [3] and Liang and Narayanan [4] proved that all the components of the aging face could now be addressed with ever-increasing patient satisfaction and safety. Smaller incisions, decreased risk of alopecia, and equivalent or better results to traditional techniques

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have made the endoscopic treatment of the brow and midface a powerful tool for modern facial plastic surgeons.

The advantage of our technique for endoscopic midface lifting is its release of the entire central and lateral midface, which allows for a complete resuspension with a more natural vector of pull. It has proven to achieve reliable and consistent results when performed properly and does so with an outstanding record of both safety and patient satisfaction.

Midfacial anatomy and the orbital complex

Understanding the midface anatomy and anatomy of adjacent regions like the forehead and orbital complex is critical for harmonious results to be realized. This is especially true when endoscopic techniques are used, because they necessitate an understanding of anatomic relationships from a different and more thorough perspective.

The midface is defined arbitrarily as the area between the level of the midhorizontal orbit and the mandibular margin; typical aging changes in this area are well understood [5]. The cheek tissue descends inferiorly away from the lower eyelids, and the lack of tissue in the infraorbital area gives a hollowed out appearance. Pseudoherniation of fat in the lower eyelid complex results in a double-convexity deformity with the convexity of the orbital fat and descended suborbicularis oculi fat (SOOF)/malar fat pad complex separated by the infraorbital rim (Fig. 1). Removal of pseudoherniated fat with different blepharoplasty techniques alone only serves to further accentuate the hollowed eye appearance. In addition, when the eyelids are addressed with traditional blepharoplasty techniques, the lower lid is at risk for ectropion and scleral show because already it has decreased tension owing to the forces of aging. Often, lateral canthopexy or lid tightening procedures are needed to avoid disappointing or even disastrous results. One advantage to performing an endoscopic midface lift is correction of this eyelid malposition.

The malar prominence descends inferomedially with aging to deepen the nasolabial crease and expose the lateral orbital rim. It is composed of a subcutaneous malar fat pad with underlying orbicularis oculi muscle. Deep to this fat is the SOOF, which is intimately associated with the periosteum of the infraorbital rim and maxilla and the insertions of the zygomaticus major and minor muscles.

With the descent of the midface structures, in particular the malar fat pad, the corners of the mouth sag and create a frown or drawn appearance (Fig. 2).

Fig. 1. Typical changes in the orbital complex with midfacial ptosis. Note the double contour deformity.

Fascial layers of the midface

Understanding the multiple fascial layers that the endoscopic surgeon must traverse is crucial to safe dissection because the frontal branch of the facial nerve is particularly vulnerable. Many surgeons have been reluctant to embrace this technique because of this risk. When properly performed, however, the frontal branch can be protected confidently. The most superficial layer encountered is referred to as the superficial temporalis fascia or temporoparietal fascia (TPF). This is a fascial extension above the zygoma of the superficial musculoaponeurotic system (SMAS). The frontal branch of the facial nerve lies within this fascia. Similarly, the temporal artery and vein course in this fascial layer superiorly toward the temporal line. The TPF joins medially and is contiguous with the galea of the scalp. Deep to the TPF the deep temporalis

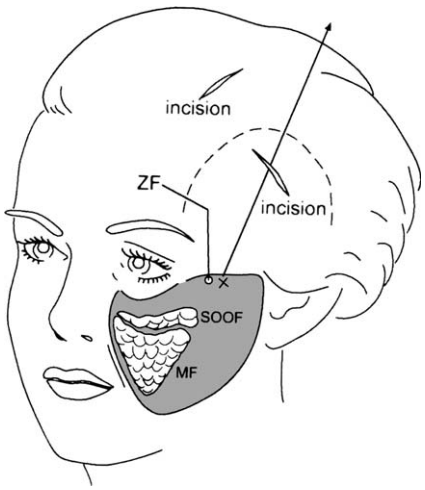

Fig. 2. Transtemporal approach to midface complex. Shaded area indicates degree of dissection. (*From* Quatela VC, Jacano AA. The extended centrolateral endoscopic midface lift. Facial Plastic Surg 2003; 19(2):199–208; with permission.)