Reframing the Etiology of Facial Sagging from a Facelift Perspective

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Loosening of retaining ligaments contributing to laxity has been widely accepted as the main cause of facial sagging. However, we would like to reconceptualize this etiology based on our own anecdotal operative observations during facelift surgery. Dissection of the retaining ligaments in elderly patients reveals ligaments that are not super taut or tight but at the same time; we find no signs of overt laxity. If we accept the notion of weakened or lax retaining ligaments as the main cause of facial sagging, theoretically we can fix this problem by (re)tightening the ligaments. However, during surgery, one often finds that the retaining ligament is strongly adherent to its surface and is immeasurably short. The retaining ligament is hence a fixed structure that is not easily manipulated by pulling or “tightening” as one may believe. When the surgeon does tighten these ligaments with sutures, the lax tissues do not lift or tighten synchronously. This led us to question the validity of the concept that loose retaining ligaments are the main cause of facial sagging.

Many different approaches and techniques are employed in facelift surgery, but all do involve tissue dissection, plication, and redraping of either the skin, superficial musculoaponeurotic system (SMAS) or the skin-SMAS complex. There will be redundant tissue comprising superficial muscle/SMAS, subcutaneous fat, and skin. These excised tissues correspond directly to the degree of facial sagging or in simpler terms the more severe facial sagging results in more redundant tissues excised. This logic is based on Mendelson’s theory that facial movements repeated over a lengthy period of time contributes to facial sagging by increasing tissue laxity in multiple tissue planes. Repetitive facial movements in everyday life occurs with expression, animation, and jaw function. The development of laxity is most pronounced in the skin, subcutaneous tissue, SMAS, and superficial expression muscles. We believe Mendelson’s theory provides a more logical explanation about the etiology of facial aging and thus a sound surgical plan to address the problem during facelifting.

Another overlooked aspect that contributes to facial aging is facial skeleton remodeling. The facial skeleton undergoes bony resorption with aging that results in reduction of bone volume. The bony framework is the base that supports the soft-tissue framework and its deficiency accentuates the redundancy of facial soft tissue. The areas with a strong predisposition to resorption include the orbital rim, maxilla, and the medial portion of mandible. However, facial sagging is most visible at the lateral facial areas, such as the jowls and cheeks. It is postulated that the degree of bone resorption is not as great as the development of soft-tissue laxity with aging. Therefore, while facial bone resorption is an important contributing factor to facial aging and sagging; it is not the main cause of facial sagging.

As surgeons, we believe that every facelift patient is different and there is no cookie-cutter approach. As such, every plan must be tailored according to the degree of laxity of particular planes of soft tissues and to address the loss of facial volume. If laxity exists in the SMAS, subcutaneous tissue, and skin, then appropriate lifting and redraping is necessary addressing the particular component that is most affected. Similarly, if on table, the surgeon notes that the retaining ligaments are loose, they should be tightened appropriately. Volume replacement should correspond to the degree of bony resorption to provide adequate support and projection for the soft tissues.

There is a myriad of contributing factors in facial sagging. However, the hypothesis we support based on our own extensive surgical experience handling tissues during facelift procedures is that prolonged and sustained facial movements are the major contributing factor for facial sagging. This is more logical than attributing facial sagging mainly to loosened and lax retaining ligaments due to aging. Every individual may have varying degrees of overlapping etiologies causing facial sagging, and it is the onus of the surgeon to determine which component is prevalent and formulate a sound surgical plan based on his evaluation.

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