

SEPTUM LENGTHENING IN THE TREATMENT OF RETRACTED COLUMELLA

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The retracted columella is a common deformity. The severe cases are easily recognized while the less severe or occult, are often missed. In surveying the literature, "too often the cause of the deformity as well as the deformity is not understood" (Hinderer, 1968).

Etiology:

Foman (1960) states that retracted columella is usually due to dislocation of the caudal end of the nasal septum, the removal of the caudal end of the nasal septum (submucous resection) or from excessive shortening in rhinoplastic procedure. It is also observed in patients who have suffered septal trauma, fractures, chondritis, septal hematoma, or abscess in childhood with loss or absorption of the caudal end of the quadralateral cartilage but with no loss of skin (Kazanjan and converse, 1949). Early childhood injuries often result in an arrest of development and growth particularly in the leptorrhine caucasian nose, as in patients with atrophic rhinitis simplex. The nose is too short in its relationship to the face. A dysharmony occurs within the nose itself. The platyrrhine configuration that would be normal in early childhood is retained in the adult. The bony and cartilagenous vaults are underdeveloped. The clinical nasal index is normal for the leptorrhine. Yet the lobule is too wide and has a clinical tip index that is normal for the platyrrhine or black race. This dysharmony is commonly observed in Sjogren's syndrome, with or without internal or external nasal atrophy, and in ectodermal dysplasia syndrome (Huizing and Ubbens, 1965).

Physiology:

The overlying soft tissues of the nose reflect the structure of its underlying hard tissues. What happens when structural integrity of the nasal septum is interfered with? Does the septum support the lobule in all of its dimensions? It does.

The following observation has been made during the course of many septal procedures. The quadralateral cartilage is partially mobilized. That is, it is freed from all attachments except to the upper lateral cartilage. The loss of total support results in, or induces by traction on the quadralateral cartilage downward toward the premaxilla: 1. sagging of the cartilagenous vault, 2. saddling of the cartilagenous dorsum, 3. broadening of the base of the lobule, 4. retraction and collapse of the columella, 5. widening and flattening of the nostrils (Cottle, et al., 1958), 6. ballooning of the upper lateral

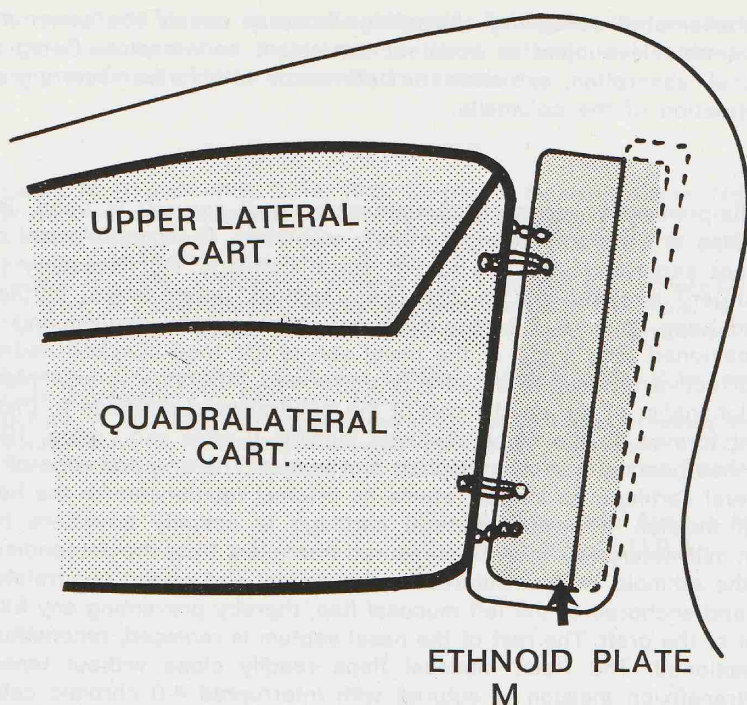


Figure 1. Diagram illustrating transplant of peredicular of ethmoid to caudal end of nasal septum.

cartilages and 7. shortening of the nasal septum. The process can be reversed by elevating cartilage, except that we are left with a shortened septum. A space presents itself between the caudal end of the quadrilateral cartilage and the caudal margin of the intraseptal mucosal envelope. The septum has become shortened in its relationship to the rest of the nose. The quadrilateral cartilage not only supports the dorsum of the upper lateral cartilage and the lobule; it is also the supporting framework for the membranous septum and the base of the lobule.

A rigid septum is a necessity for proper nasal function (Williams, 1968). The anterior inferior corner of the upper lateral cartilage is usually five mm. posterior to the anterior inferior corner of the septum in the caucasian race. The caudal end of the nasal septum approximates that of the upper lateral cartilage in adult negroes (Schultz, 1920), caucasian children and the already undeveloped nose of caucasians in atrophic rhinitis simplex.

The concept of lengthening the nasal septum instead of shortening an already short upper lateral cartilage is presented. Just as the nasal septum forms the framework and support for the dorsum of the nose, this same nasal septum determines the positioning of the membranous septum and columella.

Corrective surgery of the retracted columella and the base of the lobule has been considered difficult. Disturbed physiology results when the movement of the medial crura is disturbed by fixation in order to fill the defect. The use

of a columellar strut consisting of cartilage bone or one of the newer alloplastic materials is subject to constant movement and tension. Being unphysiological, absorption, extrusion, or both occur with further scarring and further retraction of the columella.

Procedure:

The maxilla-premaxilla approach to extensive nasal surgery is used. Both mucosal flaps are thoroughly and carefully mobilized. The quadralateral cartilage is not separated from the upper lateral cartilage. All necessary corrective surgery is performed on the nasal septum, upper lateral cartilage, lobule and bony vault. A 2-0 chromic basal stitch is now applied and the nose repositioned. The angle of the nasal valves are then checked and any further corrective intraseptal surgery is performed. Attention is now placed on the relationship of the caudal end of the quadralateral cartilage to that of the pocket formed by the hemitransfixion incision (Cottle and Loring, 1948). The nose has become narrower, higher, and longer. The anterior edge of the quadralateral cartilage no longer retains its original relationship to the hemitransfixion incision. The quadralateral cartilage is actually anywhere from five to ten millimeters too short. A measured transplant from the perpendicular plate of the ethmoid is then sutured to the caudal end of the quadralateral cartilage and anchored to the left mucosal flap, thereby preventing any future movement of the graft. The rest of the nasal septum is replaced, reconstituted and repositioned. The freed mucosal flaps readily close without tension. The hemitransfixion incision is sutured with interrupted 4-0 chromic catgut. When hemitransfixion is more cephalic than usual, a pocket is made by separating the right and left flap caudal to the incision using blunt dissection. Where a flaccid septum is present, the flaps are carefully separated as much as possible. Isogenous or autogenous cartilage is used to reconstitute the septum.

DISCUSSION

This procedure has been performed in well over fifty cases of retracted columella during the past two years. The cases consisted of both old and recent naso-septal fracture-dislocations and atrophic rhinitis simplex with associated nasopharyngitis and keratoconjunctivitis sicca. There has been no recurrence as far as the writer is able to ascertain of retracted columella.

SUMMARY

Retracted columella is a part of a symptom complex resulting both from the loss of support of the upper lateral cartilage and lobule by the nasal septum, and from arrested development. Septal transplant lengthening, results in an improved nasal valve relationship and in the cure of retracted columella.

SUMARIO

Columnilla retractada es una parte de un sintoma complejo que resulta de la pérdida de soporte del cartilago cupular y el lóbulo, por el septo nazal y

como resultado de un desarrollo detenido. Enlargamiento del septum transplantado resulta en un mejoramiento de la relación del septo al cartilago nazal y en la cura de la columilla retractada.

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