Surgery of the Nasal Tip

Rhinoplastic surgery as such is an art and not just technical surgical procedure. The surgery of the tip is the most difficult and challenging part of any rhinoplastic surgery and difficulties arise due to surgical problems and healing process. The narrowing and reshaping of the tip is considered as an integral part of the rhinoplastic operation rather than ignoring it or considering it as a separate surgical procedure. In a routine rhinoplasty, whenever the nose is narrowed, the tip will appear broad and rounded requiring its remodelling in majority of the cases. The rhinoplastic surgeon has to be conversant with various types of tip procedures, as there is no single operation that can be applied to every type of tip deformity.

The tip work should be done step by step and each step carefully checked. It is always better to plan the proposed steps of tip surgery before hand to achieve better results. An effort should be made to preserve support and lining. The height and width of the tip are assessed by looking at the nose from the base which should present equilateral triangle. Make a note of nasolabial angle, position of columella, supratip depression, facets of soft triangles, flaring of the alae, nasolabial crease, angulation of the domes, size and shape of the lateral crus and the skin texture.

Techniques

There are basically four different approaches to deal with different types of tip deformities, Sood, 1996. Each type leaves an intact strip of lower lateral cartilage.

- Retrograde or eversion technique not used now.
- External technique advocated by Rethi, this gives complete exposure of entire lower lateral cartilage and is quite popular currently.
- Cartilage splitting technique advocated by Anderson is more useful in symmetrical tip deformities.
- Delivery flap technique is practised universally and is recommended for the beginners. This technique will be described briefly.

Delivery flap Technique is most versatile procedure and is considered a good technique for adequate exposure and tip refinement, as the surgeon has full control on the proposed areas of the excision, Sood 1977 & 1981. This is also ideal for revision tip surgery and whenever lower lateral cartilages are asymmetrical, markedly bulbous or in bifid tips. Tip is supported by interdomal

Editorial

V.P. Sood
New Delhi
India
Pin - 110 001

Fig. 1. Marginal incision is given using No 15 Blade inside alar border.

Fig. 2. Undermining the skin from the lateral crus and dome.

Fig. 3. Excision of triangular piece from lateral crus.

ligaments, connection between upper and lower lateral cartilages and medial crura. In delivery technique, these areas are weakened which results in some degree of loss of projection of the tip post operatively. But, in this technique there is narrowing and upward rotation of the lobule.

In this technique, the lateral crus and dome of the lower lateral cartilage is delivered as a bipedicated chondro-cutaneous flap, through the marginal incision.

The incision should start few millimeters anterior to nostril base and then follow the caudal margin of lateral crus extending to the dome, Fig. No. 1

The medial part of the marginal incision should be placed very carefully as the skin is very thin here. The incision should be placed just within the vestibular surface of columella along caudal border of the medial crus and should not extend more than upper third of the length of columelle generally.

The overlying external skin and soft tissues are elevated from the perichondrium of lateral crus, dome and upper part of medial crus with the help of a blunt ended small curved Kilner scissors introduced through the mid lateral portion of the incision, Fig. No.2. The lateral crus is completely released from the overlying skin after dissecting over the dome and upper part of medial crus.

The subcutaneous tissues are carefully undermined in proper plane without causing injury to delicate underlying lateral crus dome and medial crus of alar cartilage. The skin is first mobilized on one side and then, same steps are repeated on the opposite side. The alar cartilage is delivered like a bucket handle with the help of alar cartilage evertor negotiated through intercartilaginous incision and examined. The fibrofatty soft tissues between two domes and upper ends of medial crura are excised whenever it is found excessive.

Excise a triangular shaped piece from the upper part of the lateral crus. The cartilage from the lateral crus is stripped with extreme care without injuring the underlying vestibular skin using Sood cartilage stripper, Fig. No. 3.

The excision of triangular piece from the lateral crus will not only cause upward rotation of the tip but

Fig. 4a. Pre operative appearances of bulbous tip

also narrows the lower cartilaginous vault of the nose. It also accentuates or reproduces the naso-alar crease and reduces the bulbousness of the lobule.

To attain symmetry, either excise symmetrical equal pieces from each side of the lateral crus or measure the symmetrical portions of the cartilage to be left behind and then excise the unwanted cartilage.

In bulbous tip excise fibrofatty tissue between the domes which can be further narrowed by a interdomal stitch, Fig. No. 4. In markedly bulbous tip, cephalic parts of lateral and medial crura have to be excised in addition to the excision of part of the domes.

Fig. 4b. Post operative appearances of bulbous tip.

Maximum amount of sharpness of the tip can be obtained by transacting the dome completely and leaving the underlying vestibular skin intact and stitching cut ends meticulously to re-establish continuity of the cartilaginous arch.

The tip can be raised in a dependent tip by placing a graft of cartilage between the bottom of medial crura and the anterior nasal spine or by inserting cartilaginous battens, or strut in a tunnel made by giving an incision anterior to medial crus. The tunnel extends between the tip and anterior nasal spine.

The strut can be prepared from the septal or lower

Fig. 5a. Pre operative, appearances of flat nose and markedly bulbous tip and short columella

Fig. 5b. Pre operative, appearances of flat nose and markedly bulbous tip and short columella

Fig. 5c. Appearances of flat nose and markedly bulbous tip and short columella

lateral cartilage. The strut should fit snugly to produce the desired effect. Fig. No. 5. Accentuation of the tip can also be achieved effectively with cartilaginous tip grafts as advocated by Sheen (1975).

The Tip grafts, also called shield grafts are very useful to increase the tip projection and provide better definition to the lobule. In revision surgery of the tip,

Fig. 5d. Pre operative, appearances of flat nose and markedly bulbous tip and short columella

the tip grafts have been found quite useful. The tip grafts can be obtained from septal or conchal cartilage.

Whenever alar are flared, these are improved by Weir procedure which essentially consists of crescent shaped excision of composite piece from the alar attachment and stitching the detached alar with 5-0 prolene sutures Fig. No. 6.

The correction of post cleft lip and palate nasal deformity is quite difficult problem. Many techniques have been mentioned in literature. The aim of surgery

Fig. 6a. Pre operative appearances of flared alae.

Fig. 6b. -Post operative appearances of flared alae

should be to achieve symmetry of the nasal tip, projection of nasal tip and dorsum along with septal reconstruction. Tip symmetry can also be supplemented by onlay tip cartilage grafts obtained from septal cartilage or conchal cartilage of pinna. Correction can be done any time after 14-15 years. In case there is psychological or emotional element involved due to nasal deformity then correction can be undertaken even at an earlier age.

Summary

The nasal tip is considered most difficult area in entire rhinoplasty. The shape of the nasal tip is altered

primarily by changes of lower lateral cartilages, or by badly performed surgery. For the assessment of the tip, its shape must be considered in relationship to the rest of the nose and face. Various types of tip deformities may be encountered. Tip may be overprojected, underprojected, bulbous or retruded columella may be deformed or there may be alar flaring.

Tip surgery should be properly planned and accomplished meticulously to achieve pleasing results. Delivery flap technique provides excellent exposure and can deal with most of the tip deformities successfully.

References

1. Anderson, J.R., (1971) : *New Approach to Rhinoplasty*. Archives Otolaryngology, 93 : 284.
2. Sheen Jack, H., (1978) : *Aesthetic Rhinoplasty*. The C.V Mosby Company Saint Louis.
3. Sood, V. P., (1981) *Setorhinoplasty* (E. Merc Award paper) Indian Journal of Otolaryngology 33 : 83
4. Rethi, A., (1934) *Operation to shorten an excessively long nose*. Rev Chir. Plastic. 2 : 85.
5. Sood, V.P., (1996) : *Corrective Rhinoplasty*. C.B.S. Publishers and distributors, New Delhi
6. Sood, V.P., (1977) : *Rhinoplasty for the nasal deformities* · *Proceedings of the Second International Symposium Grane Stratton*, New York 72.

Congratulation

Dr. A. G. Pusalkar has been elected as a corresponding member by the German Society of Ear., Nose, Throat and Head and Neck Surgery. He will be conferred with the certificate of membership at the EuroGress in Aachen, Germany on 12th may 1999. He is the first Asian who has been elected member to German Society of ENT and Head, Neck Surgery.