

ALAR CINCH

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ABSTRACT:

Le fort I osteotomy is a commonly performed procedure among orthognathic surgeries and widening of the alar base is commonly encountered soft tissue change. Therefore intervrrntions to prevent this complication has been suggested in literature. Techniques for controlling lateralization of the ala, including the alar base cinch technique, originally described by Millard, have been well reported by Collins and Epker and later modified by others.

Key-words: Le Fort I, osteotomy, Alar Clinch

INTRODUCTION:

Le fort I osteotomy is a commonly performed procedure among orthognathic surgeries. Soft tissue changes after Le Fort I osteotomy are – widening of the alar base, nasal tip changes, flattening and thinning of upper lips etc. Among these, widening of alar base is most common.^[1,2] Excessive widening of the alar base and superior retraction result in deepening of the alar-facial groove, which may be undesirable and unaesthetic. Therefore intervrrntions to prevent this complication has been suggested in literature. Techniques for controlling lateralization of the ala, including the alar base cinch technique, originally described by Millard, have been well reported by Collins and Epker and later modified by others.^[3,4,5,6]

METHOD

Different alar cinch techniques have been described by various authors. Different techniques were reviwed by the author.

The alar base is marked with 3 landmarks:

the nasofacial skin fold at the left alar base (point L), the middle of the columella (point M), and the nasofacial skin fold at the right alar base (point R).

The classic method of alar cinching (adopted by Rauso et al.) (figure 1) - this procedure is performed by using a 3-0 nonabsorbable suture to anchor the fibroareolar tissues under both alae. The fibroareolar tissue is identified by applying pressure on the alae of the nose extraorally and observing tissue movement intraorally through the vestibular incision. The correct anchoring of the fibroareolar tissue is confirmed by applying tension on the cinch sutures and making sure that medial movements of both alae were similar. The 2 free ends of the sutures are then passed through a hole made in the nasal spine, making a knot. ^[4]

The modified method of alar cinching (adopted by Rauso et al.) (figure 2) - A needle is inserted through the skin at the nasofacial skin fold and exits through the

fibroareolar tissue. A non-absorbable suture without a needle is inserted through the needle from the oral cavity to the outside. The needle is retracted through point R without leaving the skin point, and then returned to the oral cavity in a medial position. Finally the needle is retracted from point R, leaving the suture through the soft tissue. The same procedure is repeated on the other side. The 2 free ends of the sutures are then tied together after passing through a hole made in the nasal spine. [4]

The classic method of alar cinching (adopted by Ritto et al.) (figure 3) - This procedure is performed in the following manner: An index finger is used to apply extraoral pressure on the alar base region, and a dentate forceps grasp this tissue through the intraoral incision. A suture bite is taken at this point through the tissue previously held by the forceps. The same procedure is applied on the opposite side. After passing the suture on both sides, it is tightened with attention to the alar base response. If the alar base suture is judged to be adequate, the vestibular incision is then closed in a routine fashion, without performing a V-Y lip closure. [5]

The classic method of alar cinching (adopted by Nirvikalpa et al.) (figure 4) - This procedure is performed using an 18-gauge needle, which is passed through the skin at the nasofacial skin fold through the fibroareolar tissue intraorally on one side. A thick suture bite is taken at this point. The same procedure is performed on the opposite side. Applying

medial tension on the cinch suture and making sure that the medial movements of both alae are similar confirmed the correct anchoring of the fibroareolar tissue. The 2 free ends of the suture are tied together in the center. [6]

The reinsertion method of alar cinching (adopted by Ritto et al.) (figure 5) - A nonresorbable suture with a thick needle is inserted from the intraoral incision to the skin extraorally, exiting at the alar-facial junction. The needle is then reinserted into the intraoral incision through the same puncture site, and the direction was changed before exiting in the intraoral incision. After passing the suture on both sides, the sutures are tightened. [5]

The modified method of alar cinching (adopted by Nirvikalpa et al.) (figure 6) - A needle is passed through the nasofacial skin fold and fibroareolar tissue, and a thick suture bite with 2-0 polyglactin 910 (Vicryl) through the tissue is taken at this point. After passing it through the other side, a third bite is taken through the nasal septum posterior to the anterior edge of the nasal septum. The suture is then tightened across these 3 points. [6]

DISCUSSION:

Orthognatic surgeries carries heavy burden for post operative esthetics and patient expectations. As with any surgery, complications are common. Soft tissue changes after osteotomy and repositioning are well predictable, so surgeons can modify/add interventions to

minimize or rectify those changes which compromise esthetics.

Widening of the alar base is common after Le Fort I osteotomy, specifically superior and anterior reposition of the alar base.^[2] The alar cinching is the method for rectifying this complication. Postoperative effects of alar cinch have been evaluated previously.^[8,9,10]

In classical method only a small amount of fibroareolar tissue can be grasped, so alar base widening is not effectively controlled. Use of percutaneous needle

allows accurate identification and more tissue grasp. Making a hole in the nasal spine or anchoring sutures through nasal septum also provide effective and accurate siting of sutures and so more effective control of alar base widening postoperatively.^[10]

We reviewed different techniques for alar base cinching presented by different authors. Effectiveness of each against one another is still a field to be addressed.

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