Novel technique and simple approach for supra-alar region and supra-alar crease correction by supra-alar cinching

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ABSTRACT

This technical report describes a simple and innovative surgical technique for supra-alar sidewall region constriction and supra-alar crease attenuation by cinching technique through intraoral approach.

Key words: Alar correction, intraoral nose correction, nose width correction

INTRODUCTION

Surgical techniques with regard to alar cartilage correction have evolved with time. Although many approaches have been devised and tried upon, the procedure continues to be one of the most challenging surgical procedures in rhinoplasty. In this technique, constriction of the upper part of alar sidewall and deepening of supra-alar crease were achieved by simple supra-alar cinching through the intraoral approach. The advantages of this approach were easy accessibility, visibility, and lesser incidence of complications.

SURGICAL PROCEDURE

Preoperative analysis of the patient was carried out with soft tissue photometric analysis. Patients with widened supra-alar sidewall and ill-defined supra-alar crease [Figure 1] were considered to be ideal for the use of this surgical technique. The novel treatment plan of supra-alar wall cinching through intraoral approach for correction of the above-mentioned defects was considered instead of the conventional alar cartilage plasty surgeries through open or endonasal rhinoplasties.

Surgery was carried out under general anesthesia. Intraoral maxillary vestibular incision extending from upper canine to canine was done and mucoperiosteal flap was elevated up to the apex of the pyriform fossa [Figure 2]. The infraorbital nerve was identified and protected [Figure 3]. The lateral part of the supra-alar tissue area was located anatomically, and the location was confirmed by gently grasping the inner side of the supra-alar region with tissue forceps. The located tissue was pulled toward the bone, so that the constriction of external surface of the supra-alar region and attenuation of supra-alar crease could be seen when the pulled tissue was manipulated. The located tissue was anchored to the adjacent bone (near the pyriform rim). For anchoring, the holes were created by reflecting the nasal floor and the lateral nasal wall lining from the pyriform fossa marginally to the depth of 10 mm and a hole with the diameter of 1 mm was placed using straight fissure...
bur (HP No. 701) lateral to the pyriform rim as shown in Figure 4. Further, nasal lining was protected with a retractor [Figure 4]. A deep bite was taken in the fibro-adipose tissue in the located supra-alar sidewall region with the 2-0 prolene, and one end of the suture was taken out through the hole and a knot was placed. When the suture knot was tightened, the supra-alar crease area tissues got closer to the bone which in turn resulted in the constriction of supra-alar region and attenuation of the alar crease [Figure 5]. Similar procedure was also performed on the opposite side. Precautions were taken to maintain the symmetry while tightening and placing the knot. For better understanding of the procedure, readers are requested to refer to the schematic sketch shown in Figure 6 (6a - Worm’s view which shows hole created next to pyriform fossa indicated with green arrow. 6b – A frontal view which shows supra-alar crease, suture, and hole indicated with pink, blue, and green arrow, respectively).

Figure 1: Frontal view demonstrating the widened supra-alar sidewall and ill-defined supra-alar crease

Figure 2: Intraoral maxillary vestibular incision extending from upper canine to canine

Figure 3: Mucoperiosteum reflected and nasal mucosa elevated from the pyriform rim

Figure 4: A hole is drilled near the pyriform rim for supra-alar cinching

Figure 5: Supra-alar sidewall cinching with 2-0 prolene

Figure 6: Schematic sketch of supra-alar sidewall cinching. (a) Worm’s view (b) frontal view
Alar base width was restored by alar cinching done in the conventional form. A hole with 701 bur was made in the anterior nasal spine and with 2-0 prolene. A bite was taken from the lateral alar base of one side and brought out through the hole in the nasal spine. A bite was also taken from the other side of the alar base and again brought through the hole in nasal spine and tightened until the alar base width reached its ideal width as per the patient’s facial profile. The knot was then secured.

After achievement of hemostasis, closure of the intraoral mucoperiosteal layers with 3-0 vicryl was done. External nasal plaster of paris splint was placed. The patient was under observation postoperatively for 2 days. The patient was then reviewed after 10 days and splint was removed [Figure 7]. Both the patient and the surgeons were satisfied with the outcome.

**Conclusion**

The intraoral approach supra-alar cinching technique appears to be a simple and efficient way to correct the supra-alar region and alar crease. The duration of the procedure was only 30 min which is lesser in comparison to the conventional rhinoplasty for alar correction. Scar formation in the skin was also totally avoided in this procedure. In addition to the above-mentioned advantages, the supra-alar cinching technique also provided better results to the patients who were satisfied with the treatment outcome.

**Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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**Conflicts of interest**

There are no conflicts of interest.