Nasal Base Narrowing

The Combined Alar Base Excision Technique

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Objective: To evaluate the role of the combined alar base excision technique in narrowing the nasal base and correcting excessive alar flare.

Methods: The study included 60 cases presenting with a wide nasal base and excessive alar flaring. The surgical procedure combined an external alar wedge resection with an internal vestibular floor excision. All cases were followed up for a mean of 32 (range, 12-144) months. Nasal tip modification and correction of any preexisting caudal septal deformities were always completed before the nasal base narrowing.

Results: The mean width of the external alar wedge excised was 7.2 (range, 4-11) mm, whereas the mean width of the sill excision was 3.1 (range, 2-7) mm. Completing the internal excision first resulted in a more conservative external resection, thus avoiding any blunting of the alar-facial crease. No cases of postoperative bleeding, infection, or keloid formation were encountered, and the external alar wedge excision healed with an inconspicuous scar that was well hidden in the depth of the alar-facial crease. Finally, the risk of notching of the alar rim, which can occur at the junction of the external and internal excisions, was significantly reduced by adopting a 2-layered closure of the vestibular floor ($P = .01$).

Conclusions: The combined alar base excision resulted in effective narrowing of the nasal base with elimination of excessive alar flare. Commonly feared complications, such as blunting of the alar-facial crease or notching of the alar rim, were avoided by using simple modifications in the technique of excision and closure.

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tril floor will result in narrowing of the nostrils and a true decrease in the width of the nasal base. In cases of excessive alar flare, external alar excisions will result in a decrease in alar flare with no true decrease in the width of the alar base; however, this decrease in lateral flare will result in an apparently narrower base as a result of the decrease in the widest diameter of the nasal base. Finally, in cases of a wide alar base associated with excessive flaring, effective nasal base narrowing can be achieved only by combining the internal vestibular floor excision with an external alar wedge excision.

An important factor to be assessed before surgery is any difference in the level of insertion of the alar lobule into the upper lip, which may lead to an oblique base with asymmetric flare. Other factors include the thickness of nasal skin and the presence of previous scars.

**SURGICAL TECHNIQUE**

Alar base narrowing is performed as the final step in rhinoplasty because any narrowing of the nasal tip or any change in tip projection will have a direct effect on the alar base configuration. Only after the closure of all rhinoplasty incisions can the amount of alar base narrowing be judged properly.

Before injection of anesthesia, a caliper is used to measure the distance from the midcolumellar point to the alar crease on each side to detect any difference in the width of the nasal sill, which may require asymmetric excision of nasal sills. The amount of sill resection is marked using 2 vertical parallel lines, which extend into the nostril where the upper ends of both lines are connected with an inverted V-shaped incision.

The alar-facial groove is marked, and the marking is extended along the crease between the nostril sill and the upper lip until meeting, at a right angle, with the medial line of the previously marked sill resection. When the marking is completed, the area is injected with 1% lidocaine hydrochloride and 1:100,000 U of epinephrine.

A No. 11 blade is used to perform the sill resection, followed by a No. 15 blade to detach the alar lobule from the face at the alar crease. Meticulous cauterization using a fine microdissection needle (Colorado needle; Stryker, Portage, Mich) is performed to achieve complete hemostasis. The anteroinferior end
of the now-free alar flap is rotated downward and medially into
the vestibular floor defect and fixed to the medial corner of the
defect by a 5/0 polypropylene suture (Prolene; Ethicon Inc, Som-
erville, NJ). The level of this corner suture can be adjusted to re-
position the insertion of the alar lobule into the upper lip to cor-
rect any preexisting asymmetry in the level of the alae. Only after
closing the vestibular floor defect can the surgeon more accu-
ately assess the amount of external alar excision needed
(Figure 3B). On average, a 7.2-mm wedge excision from the lat-
eral edge of the mobilized ala was found to be enough to elimi-
nate the excessive alar flare in the study cases.

The sill excision is closed in 2 layers using 5/0 polyglactin 910
subcutaneous bunching sutures (Vicryl; Ethicon Inc) to help evert
the skin edges, which are then closed using 6/0 polypropylene su-
tures for the part outside the nostril rim and 5/0 polyglactin 910
sutures inside the nostril. The alar crease incision is also closed
in 2 layers using 2 deep 5/0 polyglactin 910 anchoring sutures to
relieve tension at the skin edges, which are then approximated
with a few interrupted 6/0 polypropylene sutures (Figure 3C). An-
tibiotic cream is applied to the incision lines, and all of the polypro-
pylene sutures are removed on the fifth postoperative day.

RESULTS

On review of 1000 consecutive rhinoplasty cases I have per-
formed, I found that some type of alar base excision was
performed in 150 cases (15%). Of these, 81 cases (8.1%)
received external wedge excisions to correct excessive alar
flaring; 60 cases (6%) received a combined external alar
wedge resection and internal vestibular floor excision to
correct a wide nasal base with excessive flaring; and only
9 cases (0.9%) needed an isolated internal nostril floor (sill)
excision to correct a slightly wide nasal base.

In the 60 cases of combined alar base excision, the
mean width of the external alar wedge excised was 7.2
(range, 4-11) mm, whereas the mean width of the sill ex-
cision was 3.1 (range, 2-7) mm.

The combined alar base excision resulted in effective
narrowing of the nasal base with elimination of the ex-
cessive alar flare, even in cases presenting with an ex-
traordinarily wide nasal base (Figure 4). No cases of postop-
erative bleeding, infection, or keloid formation were
encountered. However, partial extrusion of the deep
polyglactin 910 sutures occurred in 3 cases (5%) and was
managed by removing the extruding sutures and cautery-
ing the area with silver nitrate. Cosmetically, the exter-
nal alar wedge excision healed with an inconspicuous scar
that was well hidden in the depth of the alar-facial crease
and did not result in obliteration of the natural crease in
any of our cases. However, dermabrasion of the external
alar scar was performed in 6 cases with excessively oily
skin, to eliminate apparent suture track marks.

Six (30%) of the first 20 cases showed variable degrees
of alar rim notching in the nostril’s floor at the junction
of the alar and sill excisions. This incidence was signifi-
cantly reduced to only 2 (5%) of the next 40 cases after add-
ing a few 3/0 polyglactin 910 subcutaneous sutures before
closure of the vestibular floor skin ($P=0.01$).

COMMENT

Despite numerous articles on alar base narrowing, the
management of cases with a wide nasal base and alar flar-
The use of cinching sutures to pull the ala together or the use of combined alar base excision to remove parts of the alar lobule and the vestibular floor.

The major advantage of the cinching suture technique is avoidance of external incisions. However, many limitations are associated with the use of this technique for wide noses with excessive flaring because it may lead to bunching of the floor of the nostrils and excessive rounding of the alae. These limitations stimulated some authors \(^{13, 14}\) to modify the technique by combining it with excisions from the vestibular floor or the alar lobule.

Another important limitation of the cinching suture technique is that it can only result in symmetric medialization of the alae, which makes it inapplicable in cases with asymmetric flaring (Figure 5A and C). This problem is demonstrated in the first case reported by Millard \(^{13}\) in his original description of the alar cinch technique, in which the technique effectively narrowed the alar base but failed to correct the preexisting asymmetric flare. Finally, despite the numerous modifications in suturing material and the technique used, the long-term effect of the cinching sutures remains questionable.

Considering these limitations, the cinching suture technique failed to replace alar base excisions as the standard method for alar base narrowing.

In the present study, a combined alar base excision was used in 60 cases with a wide nasal base and alar flaring. Starting with the internal resection allowed a more accurate judgment of the amount of external alar excision needed, thus avoiding any overresection, which is usually the main cause of obliteration of the natural alar-facial crease (Figure 6). This obliteration did not occur in the present study because, even in the cases with a very wide nasal base, after

Figure 5. Preoperative photographs (A and C) of a patient with a wide nasal base and asymmetric alar flaring (more on left side). The postoperative photographs (B and D) of the same patient 3 years after a combined alar base excision, which narrowed the nasal base, corrected the asymmetric flare, and changed the wide, horizontally oriented nostrils to more oval, vertically oriented nostrils.

Figure 6. Photograph of a revision case who underwent operation elsewhere shows obliteration of the alar-facial crease after excessive external alar wedge resection.
the internal excision was completed, the amount of external alar excision required was found to be less than that initially calculated, thus leading to a more conservative external resection with preservation of the natural alarfacial crease (Figure 4B and D).

Although the results of alar base excisions are gratifying, many surgeons are reluctant to perform such excisions for fear of obvious scarring and/or unnatural results. In all of the present cases, the external incision was placed in the alar-facial crease and continued in the groove between the sill and the upper lip. This left an inconspicuous scar that was well hidden in the depth of the natural alar crease. This is in contrast with other higher incisions that are placed above the crease to avoid crease obliteration, which in the present patient population results in obvious scars that parallel the alar crease.

Dermabrasion was needed in 10% of our cases, who had thick oily nasal skin, to eliminate suture marks of the external wedge excision. It is recommended to counsel the patients about the possibility of needing dermabrasion postoperatively to improve their alar scars.

Finally, notching of the alar rim, which can occur at the junction of the alar and sill excisions, was significantly reduced by adding a deep layer of 5/0 polyglactin suture marks of the external wedge excision. It is recommended to counsel the patients about the possibility of needing dermabrasion postoperatively to improve their alar scars.

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REFERENCES

20. Foda HMT, Kridel RWH. Alar base excisions for fear of obvious scarring and/or unnatural results. In all of the present cases, the external incision was placed in the alar-facial crease and continued in the groove between the sill and the upper lip. This left an inconspicuous scar that was well hidden in the depth of the natural alar crease. This is in contrast with other higher incisions that are placed above the crease to avoid crease obliteration, which in the present patient population results in obvious scars that parallel the alar crease (Figure 7).

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