



AESTHETIC APPROACHES IN ALAR BASE REDUCTION

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KEYWORDS :

INTRODUCTION

Alar Base Reduction is an intriguing and often inadequately described technique of rhinoplasty. Alarplasty helpful cosmetically as well as functionally by increasing or decreasing the width of the nostrils.

The concept of narrowing the alar base dates back to the early days of modern rhinoplasty when Robert Wier¹, in 1892, described the use of external alar wedge excisions to correct the unattractive alar flare that follows reduction rhinoplasty.

In 1931, Joseph and Milstein² described narrowing of the alar base by using internal excisions from the nostril base and vestibular floor.

The dilator naris muscle helps in opening the nostril, its origin is from the lateral crura of the lower lateral cartilage inserting in alar skin. Nasalis muscle acts by depressing the nasal tip and elevates the corner of nose, causing nasal flaring. It is also known as nasalis compressor. Levator labii superioris alaeque nasi arising from nasal process of maxilla and inserting in alar cartilage and upper lip, thus helps dilate the nostrils and elevating the upper lip. Depressor septi nasi helps in nasal constriction. It arises from upper incisive fossa inserts on septum and ala. Vestibule of nose is the anterior most part of the nasal cavity with septum medially and ala of nose laterally. Vestibule of nose is the anterior most part of the nasal cavity with septum medially and ala of nose laterally. The nasal dorsum comprises the cartilaginous and bony vault of the nose. The cartilaginous vault is made up of the ULC, LLC, and the septal cartilage. Accurate knowledge of these cartilaginous structures is essential for successful rhinoplasty.⁹

METHODS AND MATERIALS

15 patients were included during the time period from July 2020 to August 2022 in an age group of 18 to 40 years. Patients divided into following category of isolated alarplasty and alarplasty with rhinoplasty. These patients have been evaluated and taken up for aesthetic correction. Patient demand was taken first priority.

Patients operated between time period of July 2020 to August 2022 between age group of 18 to 40 patients were included in the study. Patient demanding for alarplasty and willing to join for the study.

Post traumatic patients are not included in the study. Patient having psychological or any other physical disease and patients with any nasal pathology were excluded from the study.

The patient who satisfies our inclusion criteria are selected and explained about the procedure and evaluated for preoperative check-up.

Table 1: Classifications, Characteristics, And Treatment Of Alar Base Deformities⁶

classification	characteristics	treatment
Type 1	Alar flaring without wide alar base	Lateral alar reduction
Type 2	Wide alar base without alar flaring	Nasal sill reduction
Type 3	Wide alar base with alar flaring	Lateral alar reduction and nasal sill reduction

Type 4	Thick alar side wall	Alar side wall excision
Type 5	Thick alar side wall with wide alar base or/and alar flaring	Lateral alar reduction or/and lateral sill reduction and alar side wall excision together
Type 6	Alar hooding	Vestibular skin excision

PREOPERATIVE ASSESSMENT:

1. Caudal septum should be examined. In case of any Caudal septal deformity, projection of tip is lost and leads to asymmetrical alar flare.
2. Nasal tip deviation or deformity and degree of nasal tip projection as it is directly related to width of nasal base and amount of nasal flare.
3. Width of alar flare must be calculated by distance from one side of the alar crease to another. This distance must be equal to intercanthal distance. It is to be decided that during alarplasty, alar base is to be reduced by width, nasal flare or both.

SURGERY

Alarplasty is to be performed last surgical procedure, after closure of all incisions in rhinoplasty.

Alar incisions are equally measured bilaterally from centre of columella to check for equal width of Nasal sill. 2 parallel lines (inverted V shape) with meeting point towards the nostril are marked at the nasal sill as per the measured width. Following this alar facial groove is to be marked. In case of any asymmetry different width of incision are to be marked and taken. This must be done before giving local anesthesia.

Rectangular section of skin and soft tissue removed from the sill of nose when only width is to be reduced.⁴

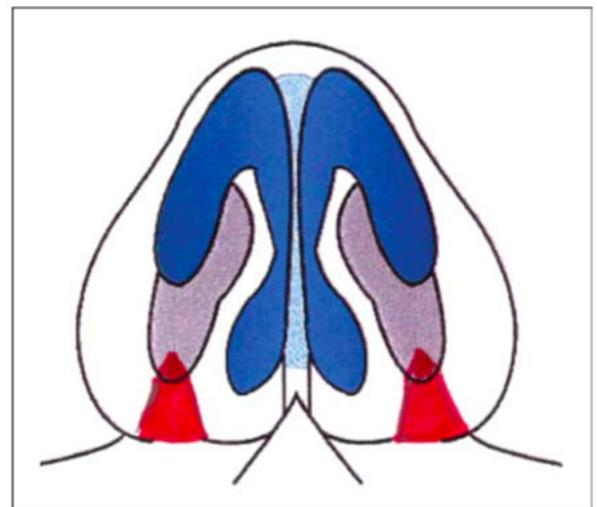


Figure 1. Alarplasty for alar base narrowing only, submental view. Excision areas are shown in red. Diagram courtesy of Pietro Palma, MD.⁴

To reduce alar flare, weir excision is done. Two incisions are taken, lower on at alar facial groove and the upper incision from superior aspect of ala and a pyramid shaped segment of ala is removed.

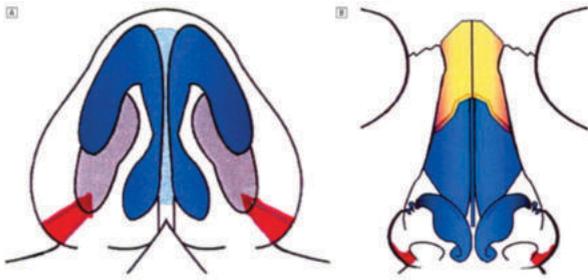


Figure 2. Alarplasty to reduce alar flare only. Excision areas are shown in red. Diagram courtesy of Pietro Palma, MD. A. Submental view, B. frontal view⁴

In order to reduce alar flare and width, one incision over alar floor, other laterally on the alar crease and the third one on the alar wall. Skin is advanced medially and secured.

Sutures used are 4-0 chromic suture for alar alignment and 6-0 nylon for skin closure.

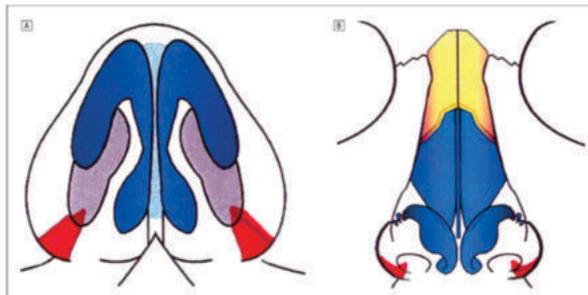


Figure 3. Alarplasty to reduce width and flare (most common). Excision areas are shown in red. Diagrams courtesy of Pietro Palma, MD. ⁴

RHINOPLASTIC APPROACH WITH ALARPLASTY:

Septal corrections are advised to be corrected prior to external deformities.

Median and paramedian osteotomies are to be performed prior to lateral osteotomies Nasal tip surgery is mainly done by nasal tip transplants and suture techniques in addition to external approach.

As mentioned earlier alarplasty being the last procedure of rhinoplasty, in terms with the tip of the nose, projection or deprojection may decrease or increase the appearance of nasal flare. Actual size of nasal flare might not be altered except increased tension septum (tent pole).

A columellar strut is a well recognised technique for improvement of nasal tip projection and protection.

A saddle deformity is corrected by Augmentation. Septal and conchal graft can be used for the same.

RESULTS

Alarplasty is a technique of paramount importance in Rhinoplasty. From the patients taken for the study, 5 underwent isolated alarplasty, 5 patients had undergone alar correction along with tip projection and augmentation, 3 patients underwent alar correction with augmentation and silicon implant, 2 patients underwent alarplasty with tip correction, augmentation and osteotomy. Of all 15 patients, 11 patients (73%) were satisfied with the cosmetic outcome of the surgery. An important part of the outcome studies in aesthetic surgery is the fact that patient satisfaction rather than objective measures or complication. These are key criteria for surgical success.



Figure 4. Alar base reduction. Comparison of preoperative and postoperative image of patient



Figure 5 Reduction Of Alar Flare. Preoperative And Postoperative Comparison



Figure 6. Alar Base Reduction With Tip Augmentation. Preoperative And Postoperative Comparison.

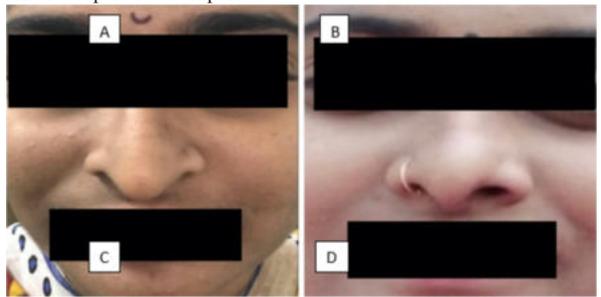


Figure7. Alar base reduction with nasal tip rhinoplasty. A) Preoperative frontal view. B) postoperative frontal view. C) columellar incision. D) postoperative submental view.

DISCUSSION:

Rhinoplasty is the second most common major cosmetic surgical procedure performed on the face⁸ even though there is a substantial increase in rhinoplasty surgery, not much research was published in literatures in alarplasty.

Alarplasty when done along with rhinoplasty, cosmetic outcome and patient satisfaction were better than isolated rhinoplastic procedure. Scar contracture was seen in postoperative patient causing mild alar retraction. In minimal to mild alar retractions, elastic properties of soft tissue and skin of ala are retained.⁶

CONCLUSION:

From our study we can conclude stating alar base reduction techniques like wedge excision, V-Y advancement method and sill excision have given good results with patient satisfaction. We have aimed to achieve natural outcome post-surgery by preserving natural curvature of lateral ala.

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