

Original Article

Evaluation of Results and Patients' Satisfaction of Alar Base Resection Surgery after Rhinoplasty Operations in 15 Khordad Hospital

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Abstract

Background: Alar base surgery is one of the controversial issues in rhinoplasty. In this surgery the nasal base width and alar flaring is got smaller with some kind of procedures. One of these procedures is wedge resection of alar base. This procedure may accompany with either some dissatisfaction of scars and adverse effects or complications. In this study, we evaluate the patient satisfaction of scar and possible complications.

Materials and Methods: A total of 120 rhinoplasty patients at 15 khordad hospital were candidates for alar base wedge resection due to broad nasal base and / or alar flaring who were chosen for this study. We recorded and examined these patients before and minimum 6 months after surgery, then evaluated these information and data, which finally, compared all the preoperation and postoperation findings.

Results: Mean age of patients was 30.11 years old. The full satisfaction of scar was 85.5% (103), but 6.7% (8) of patients had not satisfaction of scar due to visible scar in their alar facial groove. The rate of nostril symmetry satisfaction was 79.2% (95) and 8.3% (10) was dissatisfied due to nostril asymmetry. There was no external valve incompetency nor alar and sill notching in our study. There was not any narrowing of nostrils as well. The mean interalar distance preoperatively was 35.88 mm, which reduced to 32.61mm of mean diameter after surgery, (P-value = 0.000). Alar flaring correction was 88% (106) which was an acceptable consequence.

Conclusion: The results of present study showed that in spite of surgeons fear for scar and some common complications after alar base resection, the satisfaction rate of our patients in this study were high, and complications frequencies were low. Therefore, we advise that it is better and wiser to do this operation in indicated patients surely within primary rhinoplasty and do not postpone it to another surgery.

Keywords: Alar base resection / Wedge excision / Alar flaring

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Introduction

Nowadays rhinoplasty is one of the most common aesthetic surgery in the world. Although some parts of this surgery have not changed, but there are so many techniques added or have changed like alar

base resection. Nose is the central part of a face and very tiny changes apparently easily showed up, so outcomes followed this operation and its complications such as scars and satisfaction of patients have been important and has made it one of the most controversial techniques for aesthetic and plastic

surgeons. Fear of visible scars for surgeons sometimes causes avoidance to do this technique even if necessary for appearance of the nose such as flared alar, asymmetric nose, asymmetric nostrils and wide inter-alar distance. Evaluation of satisfaction in patients followed this operation and scar is so important to find out a better way to increase the aesthetic and spiritual consequences of patients in our society¹⁻³.

Methods

This clinical trial study consisted of all consecutive patients who underwent alar wedge excision in the 15 Khordad center (a referral hospital of plastic and reconstructive surgery in Iran), between December 2016 and February 2017 and had been followed up for at least 6 months among 120 patients.

Before surgery and at 6 months' postoperative visit, the patients underwent a detailed physical examination and preoperative and postoperative facial photography. The data and analytic comparisons between preoperative (pre-op) and postoperative (post-op) photography recorded.

The surgeon has performed the technique at the last step of the open surgery and all the operations was performed by one of our plastic surgeons; all the measurements and physical examination before and after surgery was operated by one person.

The surgeon performed alar wedge excision for the marked area of alar base and nostril. The ratio of interalar distance to intercanthal distance, presence of alar flaring and nostril shape and symmetry were measured on basis of the pre-op photographs and all of these items were compared to post-op measurements.

The pre-op and post-op ratios of interalar distance to intercanthal distance were compared using the Wilcoxon signed rank test. Alar flaring, nostril symmetry and nostril shape before and after surgery were compared using X test. All statistical analysis were evaluated by using SPSS and $P < 0.05$ was considered significant.

Results

During this study period, 120 patients underwent alar with/without sill wedge excision and were followed

up for at least 6 months after surgery. The mean age of patients was 30/11 years (range, 18-42 years) which among of them were 87 females and 33 males.

Discussion

In our study, we used anthropometric and aesthetic analysis to assess the complications and for scar satisfaction of the operation site besides, we filled the questionnaire for some patient characteristics such as sex and age.

Some general problems of alar base like alar flaring, increased ratio of interalar distance to intercanthal distance, wide and asymmetric alar base and nostril are obviated by alar base resection. Many corrective techniques could be done including, cinching sutures or the v-y advancement alar flap but in present survey we operated patients alar with/without sill wedge excision. This operation might be concomitant with some complications like unsatisfied scars, asymmetric nostrils, uncorrected alar flaring, external valve obstruction, visible incision, over-narrowing of nostrils and obviated alar groove.

We analyzed the surgical outcomes of alar base wedge excision in patients with/without wide nasal base and alar flaring. We found that satisfaction of post-op scars was significantly in high frequency, which complete satisfaction 85.5% (103), partial satisfaction 27.5% (9) and unsatisfied patients 6.7% (8) were evaluated at least 6 months after surgery⁴⁻⁶.

In Foda study (2007), he used wedge excision and vestibule excision with Boomerang incision for 46 patients. In his study, he did not discern any hypertrophic or keloid scar, though for three patients (6.5%) used dermabrasion to disappear suture tracks⁷. In Duron study, which was an analytic study by aesthetic anatomical criteria for alar base, showed excellent consequences; although, he informed all the patients about probability of scar and visible incision after alar base resection, Akeel and Tardy had the same outcomes in their studies⁸⁻¹⁰. Ismail in 2011, operated flaring excision by a flap based lateral side and reported no keloid or visible scar in his study¹¹. In Norhiro Ohba study who operated alar base resection by both techniques of wedge excision and cinching suture simultaneously to decrease tension of incision on 40 patients, there was no visible scar after 3 months of surgery. Northiro Ohba for reducing this distance

utilized both techniques of alar wedge resection and cinching suture simultaneously and he got 4.4 mm mean size reduction of nostril sill width¹². In Ji Heui Kim study on 60 Asian patients, there was not any unsatisfied patient of alar base resection scar. Kim reported very low rate of asymmetric or deformity of nostrils in his study on Asian patients (1%). Uncorrected alar flaring in Kim study was noted in 14 patients among 106 patients (3%). In his study, he explained three reasons might be responsible for uncorrected flaring: undercorrection of alar base resection, underprojected tip, flaring recurs during wound healing process.

Ji Heui kim obtained size reduction of the mean interalar to intercanthal distance ratio from 1.07 to 1.04 by alar alar base resection ($P < 0.001$)¹³. In Hossam M. Foda study, which it was a compound corrective study of wide nasal base and flaring by external alar wedge resection and internal vestibule floor on 60 patients, no patients reported for bleeding, infection and keloid, after 32 months follow up. Therefore, all cases with external incision of alar base had healed and their scar was hidden in alar facial crease depth without any notching in alar rim. Foda did not reported any vestibular stricture or asymmetric unsatisfaction¹⁴.

Despite many surgeons have fear for operating this technique because of scar or unusual appearance but outcomes of this study showed that incisions were concealed in alar facial groove and should incise cuts in parallel to alar crease; however, 10% patients with oily skin needed dermabrasion for suture track obscurity. In our study, full satisfaction of asymmetric nostrils was seen in 95 cases (79.2%), partial satisfaction cases were 15 patients (12.5%); unsatisfied cases among 10 patients with asymmetric nostrils before surgery were three patients who asymmetric nostrils remained and rest of them completely were corrected. In present study, we did not note any nostril constriction or alar notching. All of our 120 patients had pre-op widening of alar width and interalar distance other than alar flaring. The mean interalar distance preoperatively, was 35.88 mm and this size reduced to mean distance of 32.61

mm postoperation (P-value: 0.00). These measurements obtained by kulis on pre-op and post-op photographs.

Conclusion

In present study considering low complications and high level of patient satisfaction for aesthetic and scar outcomes, we suggest to plastic surgeons doing alar wedge resection for wide alar base and flaring without fear or worry of visible scar until getting the best consequences and patient satisfaction after rhinoplasty procedures.

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