

### Open Rhinoplasty: Labiocolumellar Crease Incision Results

#### Açık Rinoplasti: Labiokolumellar Kıvrım insizyonu Sonuçları

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#### ABSTRACT

**Background:** Different surgical techniques and incisions have been used to obtain better scar formation in various rhinoplasty operations. We present our results of open rhinoplasty using a labiocolumellar crease incision.

**Material and method:** Open rhinoplasty using a labiocolumellar crease incision was performed in all patients, and surgery was performed under general anesthesia. A V-shaped incision was made in the labiocolumellar crease and continued up along the lateral sidewalls of the skin covering the medial crura. All of the surgical techniques required to correct the different deformities were carried out, including tip suturing, grafting, tissue resection, and osteotomies.

**Results:** Open rhinoplasty using a labiocolumellar crease incision was performed on 60 patients (43 female and 17 male) with a mean age of 29.3 (range, 20 to 51). All patients underwent primary rhinoplasty. The minimum follow-up period was 12 months. No cases of circulatory compromise of the columella occurred. All incisions healed without any tissue loss or delay.

**Conclusion:** Open rhinoplasty with labiocolumellar incision offers a reliable alternative to aesthetic and reconstructive rhinoplasty.

**Keywords:** Rhinoplasty, Labiocolumellar Incision, Columellar flaps

#### ÖZET

**Amaç:** Rinoplasti ameliyatlarında yapılan insizyon skarını minimuma indirmek için farklı cerrahi teknikler ve insizyonlar geliştirilmiştir. Bu çalışmamızda amacımız açık rinoplasti ameliyatlarında uyguladığımız labiokolumellar kıvrım insizyonu sonuçlarını bildirmektir.

**Materyal ve Metod:** Bu retrospektif çalışmayaubat 2004 ve Nisan 2010 tarihleri arasında Hisar ntercontinental Hospital, İstanbul ve Abant zzet Baysal Üniversitesi Tıp Fakültesi Hastanesi Kulak Burun Bo az bölümünde ameliyat edilen hastalar dahil edildi. Genel anestezi altında açık rinoplasti ameliyatında labiokolumellar kıvrım insizyonu yapılan hastalar çalışmaya dahil edildi. Labiokolumellar kıvrımdan ba layan V ekledeki insizyon her iki medial kruralardan geçtikten sonra laterale do ru uzatıldı. Osteotomi, doku rezeksiyonu, greftleme, tip sütürü gerektiren deformitelerde bu teknik kullanıldı.

**Bulgular:** Açık rinoplasti yapılan ve labiokolumeller insizyon yapılan 60 hasta (43 bayan ve 17 erkek) çalışmaya dahil edildi. Minimum takip süresi 12 ay idi. Hiçbir vakada dola m sorunu olmadı. Bütün insizyonlarda skarda deformite olmadan iyileşti.

**Sonuç:** Açık rinoplastide labiokolumellar insizyon kullanılması estetik açıdan ve rekonstrüksiyon için ideal bir metottur.

**Anahtar kelimeler:** Rinoplasti, Labiokolumellar insizyon, Kolumellar Flepler

#### INTRODUCTION

Rhinoplasty can be performed using both open (external) and closed (endonasal) approaches. The open approach in rhinoplasty was first described in 1934 by Rethi, but was popularized by Goodman in the 1970s (1-4). At present, many surgeons use this technique because it provides a better exposure of the nasal framework (5).

However, one of the major disadvantages of open rhinoplasty is that it leaves a visible scar on the columella (6). In the literature, many surgical incision techniques have been described that seek to obtain a better postoperative scar (2,7,10). Each technique has its own advantages and disadvantages.

In this study, we present our results of open rhinoplasty in 60 patients using labiocolumellar crease incision. In our review of the literature, we encountered only one paper that reports the results of labiocolumellar incision in rhinoplasty of aesthetic patients (11).

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## MATERIAL AND METHODS

This retrospective study, the open rhinoplasty using labiocolumellar crease incision was performed between February 2004 and April 2010 on 60 patients (43 female and 17 male) with a mean age of 29.3 years (range, 20 to 51) at the Hisar intercontinental hospital, Istanbul Turkey and Abant zzet Baysal University hospital Bolu, Turkey. The study was conducted with the approval of the Ethics Committee of the Medical Faculty of Abant zzet Baysal, Bolu, Turkey. All patients underwent primary rhinoplasty. Secondary rhinoplasty patients were excluded from the study because of the previous columellar scar. All of the surgical techniques required to correct the different deformities were carried out, including tip suturing, grafting, tissue resection, and osteotomies. The minimum follow-up period was 12 months. Postoperative patient evaluation included including photographs taken during office visits. Data were collected with regard to wound healing and patient satisfaction.

### Surgical Technique

Surgery was performed under general anesthesia with infiltration of local anesthetic solution (1% lidocaine with epinephrine 1:200.000). A V-shaped incision was made in the labiocolumellar crease and continued up along the lateral sidewalls of the skin covering the medial crura (Figure 1). After undermining and elevating the columellar flap, the nasal dorsum was subcutaneously undermined and dissected to exposure the entire osteocartilaginous framework. Grafting techniques, tissue reduction, tip suturing, and cartilage harvesting from the septum were performed according to the needs of each individual case. A lateral osteotomy was carried out, followed by closure of all mucosal incisions using absorbable sutures. Skin incisions were sutured with 6-0 nonabsorbable sutures. An external cast was applied and nasal packing was performed in the standard fashion.

**Figure 1 :** Preoperative view of the case.



## RESULTS

All patients expressed satisfaction with the surgical results achieved. Placement of the incision is shown in figure 1. Preoperative and postoperative photographs demonstrated improvement in facial features and good scar formation (Figures 1,2,3). No cases of circulatory compromise of the columella occurred. All incisions healed without any tissue loss or delay. No cases of scar widening, depression, hyperpigmentation, or hypopigmentation were encountered. Prolonged swelling was noticed in all patients when compared to closed rhinoplasty patients.

## DISCUSSION

Cosmetic defects on the face can be both physically and psychologically disturbing. Different surgical techniques and incisions have been used to obtain better scar formation in various operations. In the case of rhinoplasty, the operation can be performed using either open (external) or closed (endonasal) approaches. The open technique is preferred for exposure of the nasal anatomy and it achieves more predictable results; it is performed with various types of columellar incisions (12). When an open technique is used, the general feeling is that the advantages of the increased exposure outweigh the risks of a visible columellar scar. Some surgeons use the open approach for all rhinoplasties, while others reserve its use for difficult secondary cases. Surgeons who defend the open rhinoplasty technique have improved the surgical method to avoid scar formation, although this frightening complication deters most surgeons from using transcolumellar incisions (13,14).

Zijlker TD, a British plastic surgeon, described an "elephant trunk" incision, in which a U-shaped incision was made in the nasolabial angle at the upper border of the upper lip in combination with bilateral vertical incisions along the lateral side walls of the

**Figure 2 :** Postoperative results three months after the operation.





**Figure 3** : Inferior view of one year after operation.

skin covering the medial crura. These incisions allowed elevation of the columellar flap and degloving of the tip (7). An incision at the base of the columella is reported to have been used in cleft patients, and although these authors report no difficulties with the technique, it has generally been avoided in aesthetic patients (15,16). In cleft patients, who already have a scar at the labiocolumellar crease, an open approach does not involve making a new scar. In the review of the literature, we encountered only one paper that reports the results of labiocolumellar incision in aesthetic rhinoplasty patients (11). In our opinion, the rhinoplasty technique that is presented here offers a good alternative to midcolumellar incisions in open rhinoplasty. Moreover, in addition to all of the advantages of the transcolumellar incisions, it provides several other advantages (7). For example, placing the incision within a natural crease results in a more acceptable final scar. Because midcolumellar incisions violate the columellar subunit of the nose, it is more likely to heal with a visible scar. In contrast, a meticulously closed labiocolumellar incision heals with a more acceptable scar. We relate this to an adequate wound healing condition and low exposure to contraction forces in this area. In our study, all patients were satisfied with the postoperative results.

The labiocolumellar crease incision is not applicable to all patients. Patients with an obtuse nasolabial angle will have this incision too much in view. In patients with prominent medial crura footplates, hiding this incision within aesthetic subunit lines is more difficult. Patients having a preexisting columellar scar are also more prone to columellar flap necrosis; therefore, a closed or midcolumellar incision might serve these patients better (11).

The disadvantages of this technique are the relatively long operative time, the prolonged postoperative swelling, an increased risk of columellar flap necrosis, and a soft, curvilinear transition from the lip to the columella in some patients. An incision made in the columellar base may convert this to a sharper angle (11).

In our study, postoperative swelling resolved spontaneously without any complication in all patients and no cases of circulatory compromise occurred in the columellar flaps.

## CONCLUSION

We believe that because the columella is a very prominent anatomical region that may attract more attention, any change in this particular area may be easily recognized and more difficult to conceal than would a change in the labiocolumellar region. V incision might be a better choice in open rhinoplasty.

In our opinion, open rhinoplasty with labiocolumellar incision offers a reliable alternative for aesthetic and reconstructive rhinoplasty patients.

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