

# Reconstruction of nasal and upper lip defect using bilateral inferiorly based malar transposition flaps: a case report

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## Introduction

However, nasal reconstruction has always been challenging to the otolaryngologists, various nasal reconstruction methods have been introduced. These reconstruction techniques depend on various factors including defect etiology, size, location, and depth.<sup>1</sup> Recently, the forehead flap and the radial forearm free flap are recommended in nasal complex defects.<sup>2</sup>

Our patient had a complex defect involving nasal tip, columella, septum, and a portion of upper lip after MOHS surgery for squamous cell carcinoma. Restoration of a nasal and lip function and contour are the main goals of reconstruction in this case. This report details a two stage approach to repairing such a defect using bilateral inferiorly based malar transposition flaps with auricular cartilage graft for more support and contour.

## Case presentation

A 71-year-old male, with a history of 2 month painful erythematous lesion in the nasal base and columella, referring to our otolaryngology clinic with the primary impression of nasal abscess. On examination, there was a destructive lesion involving nasal columella, septum with erythematous margins extended to upper lip. Nasal squamous cell carcinoma was confirmed through a biopsy of the nasal lesions. (Figure 1) The patient underwent resection of the lesion until all margins were free of tumor based on the histopathologic examination. A large defect created that involved nasal base, columella, septum, upper two thirds of upper lip, and philtrum. (Figure 2) Then, patient underwent nasal reconstruction in two stages. In the first stage, bilateral malar transposition flaps were planned and elevated to cover both the missed skin of nose and upper lip. For more support and contour the nasal tip and columella were shaped by an auricular cartilage graft. On both sides, The incision involved the inferior orbital rims then the flaps were elevated over the facial musculature from medial to lateral. Moreover, further undermined was done laterally to facilitate advancement. After transposition of both flaps, they were divided to two portions to cover the columella and nasal tip in superior and the upper lip in inferior. The superior division of flap made the columella lateral surface in one side and medial surface in the other side, while, columella was more supported in middle layer by cartilage graft. The donor sites were closed directly. (Figure 3) In the second stage, six weeks later, pedicle release and nasal base restoration was performed. In the second surgery, pedicle was released on both sides, then it was rotated to restore nasal base. After that, the remaining tissue from the pedicle was excised. (Figure 4, 5)

Also, at the supra tip, a small site of tissue necrosis was detected that was excised with fusiform incision. Since the histopathology analysis confirmed there was no tumor recurrence on biopsied tissue, it was closed primary while supporting with an on lay cartilage graft. All steps were performed under general anesthesia.



Figure 1. Pre-operative view of the patient's nose, displaying the biopsy-confirmed squamous cell carcinoma.



Figure 2. Post-surgical defect, illustrating the extent of the neoplasm, and nasal and lip structures involved prior to histological clearance.





Figure 3. One day following surgery, displaying an excellent color matches with minimal tissue distortion.





Figure 4.a, b.lateral and basal view after 6 weeks of malar transposition flaps .Of note, at the supra tip, a small site of resolving tissue necrosis can be seen.

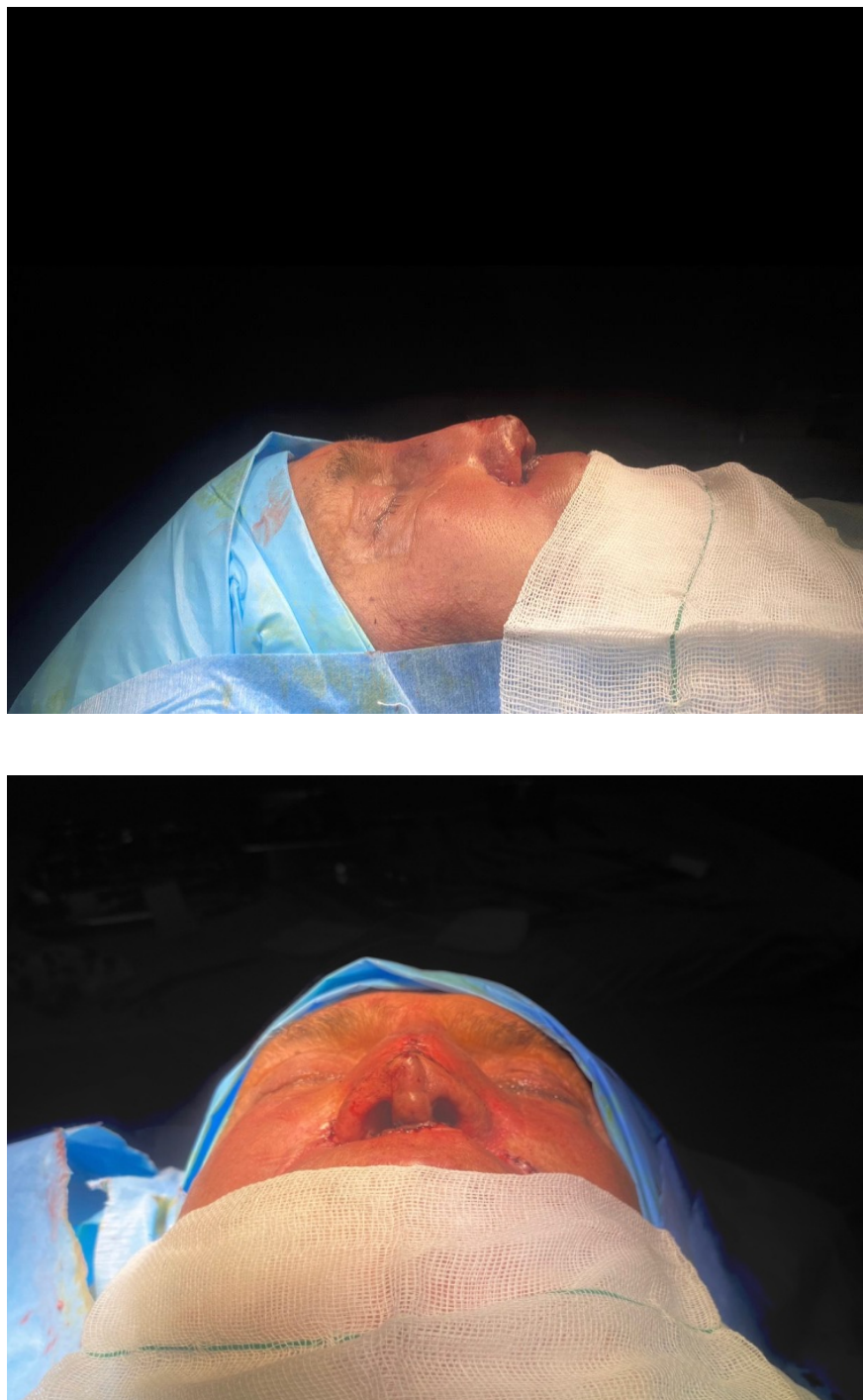


Figure 5.a, b.lateral and basal view after second stage surgical reconstruction. Pedicle release and nasal base restoration can be seen.

## Discussion

Given the tri-dimensional shape of nose, reconstruction of large nasal defects especially in the complex cases with defect involving peripheral tissue such as lip, can be a challenging task. Various cutaneous flaps are

chosen based upon defect size and location to restore nasal function with minimal scar.<sup>3</sup>

A variety of local flaps have been reported in the literatures that are named based on their donor site. Choosing the best technique with satisfactory result in nasal reconstruction requires the surgeons experience and knowledge, as well as the patient's tolerance. Nowadays, the forehead flap is considered the procedure of choice for reconstructing extensive nasal defects. The mentioned flap can be carried out in single or multiple stages.<sup>4</sup>

In this patient, the involvement of upper lip along with a columella defect limits the various different methods. Hence, we selected bilateral inferiorly based malar transposition flaps that inspired its shape by nasofacial sulcus flaps. Historically, nasofacial sulcus flaps have been used for upper lip defects reconstruction.<sup>5</sup> However, nasal reconstruction using bilateral nasofacial flap was reported in two case reports.<sup>6, 7</sup>

In our report, bilateral malar transposition flap covered nasal and upper lip defect while providing an excellent tissue match. However, the second step was done; there was no need for skin graft. This flap could not be considered for the patient as the defect was too large and involved multiple nasal subunits. In addition, placing the flap incisions at the junction of aesthetic subunits lead to excellent cosmetic outcomes. This point is important in nasal ala and tip that are more susceptible to distortion.<sup>8</sup>

On the other hand, dividing the flap into two parts could increase the risk of flap ischemia and necrosis especially in columella. However, there are some techniques to avoid flap ischemia, like placing the lateral border of incision more laterally to make a larger pedicle base.<sup>9</sup>

Although, bilateral malar transposition flap covered a large nasal defect extending from the nasal base, columella, and portions of the upper lip, further revision will be needed in order to achieve a better functional and cosmetic outcome.

## Conclusion

Malar transposition flap may be an adequate alternative for nasal and upper lip reconstruction after skin cancer resection.

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