

Subcutaneous pedicle transposition flap for nasal ala defect reconstruction: a forgotten technique

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Abstract

As a central and prominent structure of the face, the nose has particular aesthetic and functional importance and constitutes a true reconstructive challenge. Subcutaneous transposition flaps are rarely used in this region, but the surgical technique can be modified for the use of a simple flap with good aesthetic results, thereby gaining a prominent place in the range of options available for nasal ala reconstruction. We present a unique case report of a modified subcutaneous pedicle transposition flap for nasal ala defect reconstruction, showing that this flap can be applied on this area with good aesthetic results and a simple technique.

Keywords: dermatologic surgery, flap, nasal ala

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Introduction

As a central and prominent structure of the face, the nose has particular aesthetic and functional importance and constitutes a true reconstructive challenge (1). The nasal ala is one of the most difficult regions to reconstruct, especially in total thickness defects. The surgical technique should be carefully chosen, with the aim of avoiding deformations such as retraction and respecting the aesthetic subunits of the nose (1).

Subcutaneous transposition flaps are rarely used in this region, but the surgical technique can be modified for the use of a simple flap with good aesthetic results, thereby gaining a prominent place in the range of options available for nasal ala reconstruction (2).

Case report

We present the case of a 92-year-old woman referred for basal cell carcinoma, which, after 2 years of evolution, occupied more than half of the left nasal ala. The tumor was excised under local anesthesia, which caused a defect occupying almost the entire nasal wing region (Fig. 1). A dorsal subcutaneous pedicle flap was planned for the repair of the defect. This elliptical flap, measuring about 5 cm in length and 1 cm in width, was drawn along the back and tip of the nose from the columella to the glabellar region. After the incision of the entire perimeter of the flap, its superior three-quarters were completely detached at the fasciomuscular level. In the lower quarter of the flap, only the edges were detached so as to keep the vascular pedicle of the tip of the nose. Due to the laxity of the subcutaneous tissue, the flap was easily rotated 90° counter-clockwise from the patient's perspective, centered on its vascular pedicle transposing the supra-alar skin, and placed in the defect of the nasal wing, where it was sutured without tension (Fig. 2). The donor zone of the flap was easily closed with direct suture

after extensive subfascial detachment at the lateral nose and nasogenian sulcus (Fig. 3). There was no nasal collapse and airway obstruction. The postoperative period ran without intercurrents. The stitches were removed on postoperative day 7. At the 6-month follow-up, there was no relapse. Thus, we obtained an optimal aesthetic result using this technique (Fig. 4).



Figure 1 | Surgical defect after the removal of basal cell carcinoma, occupying almost the entire left wing of the nose.



Figure 2 | Rotation and transposition movement of the flap.

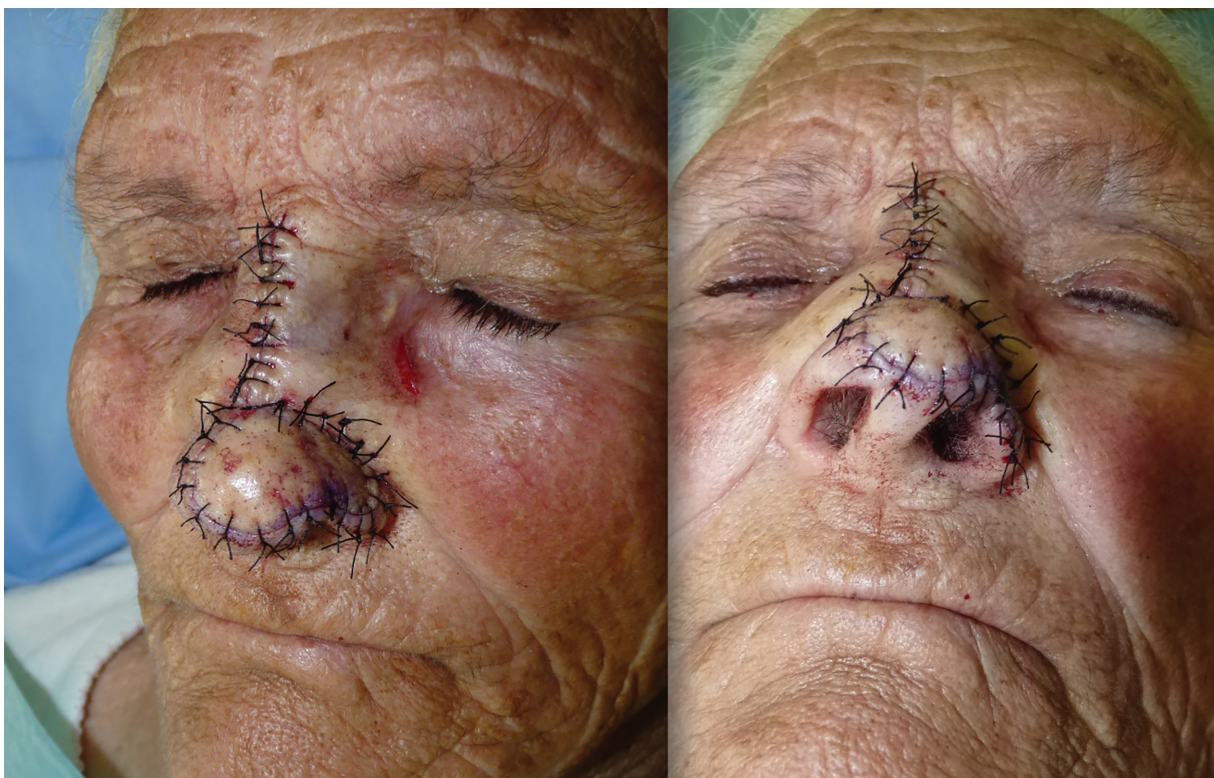


Figure 3 | Direct suture of the donor region and suture of the flap.

Discussion

The target of nasal reconstruction is to maintain the functionality and anatomy of this region. The choice of the best technique is based on the location, size, and depth of the surgical defect. At the lower end of the nose (tip and wings), the skin is thick, inelastic, and adherent to the underlying cartilage structures, limiting the possibilities of direct suture. Flaps are the best option for repair in this region, and the choice for each clinical case must be judi-

cious for an optimal aesthetic result (4). The flaps that are more commonly utilized techniques include transposition of nasolabial or nasogenian flap and advancement flaps (5). One common problem when dealing with ala defects of the nose is instability resulting in retraction of the nostrils while inhaling; if that is expected prior to surgery, an auricular cartilage graft should be considered. In our case it was tested prior to the reconstruction and it was not necessary.

The medial-dorsal or subcutaneous pedicle transposition flap



Figure 4 | Six-month follow-up showing an optimal result.

was proposed in the 1960s by Edgerton et al. for elongation of the nasal columella (3). However, this flap was recently modified and used for nasal wing reconstruction, without the need for decompression triangles or repair of “dog ears,” respecting all aesthetic subunits. The lower region of the nose is a site of many vascular anastomoses. For the success of the technique, the vascularization of the tip of the nose should essentially be kept intact by not detaching the pedicle much (2, 6, 7). To our knowledge there are no similar published case reports in the literature. This flap has been forgotten among the dermatology community, and with our case we show the simplicity of this useful technique, recommending its further use.

Conclusions

This modified flap, with an optimum adaptation to the wing region, deserves a prominent place in the range of options for repair of nasal defects because of both its simple technique and the good aesthetic result.

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