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Nasolabial Flap Cover for a Defect Following Excision of Basal Cell Carcinoma Nose

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Abstract **Case Report**

The nasolabial flap is an ideal flap for nasal reconstruction, especially the alar subunit as the colour and texture are similar to the nose. The flap is soft, pliable and has a convexity that matches well with that of the ala. The nasolabial flap is designed so that the cheek scar is hidden within the nasolabial crease. Here, we describe the use of a nasolabial flap for a post excisional defect of a basal cell carcinoma in an elderly female.

Keywords: Nasolabial, Pedicled, Nasal Reconstruction, Aesthetic, No Morbidity.

INTRODUCTION

Reconstruction of soft tissue defects following trauma or surgical excision requires robust soft tissue flaps. Nasolabial flap (NLF) is one of the oldest techniques to replace orofacial soft tissue defects, described by Sushruta, an Indian surgeon in 600 BC [1, 2]. The skin reservoir lateral the nasolabial fold can be used for oral cavity or facial reconstructions. The ease of performing this flap, especially under local anesthesia in co-morbid patients and the inconspicuous scar are the advantages of this flap [3]. This flap can be used unilaterally or bilaterally and can either be superiorly, inferiorly or centrally based pedicle flap.[4] This flap can be transferred as an advancement, rotation or transposition flap.

CASE REPORT

A 70 year old elderly female presented to the Department of Plastic & Reconstructive Surgery with an ulcer on the nose since 5 months. It started as a small ulcer and gradually progressed to the present size. The onset was insidious with no previous history of trauma in the same site. On examination, an ulceroproliferative growth of size 1.5 x 1cm was present in the right side of the nasal tip with well-defined margins and minimal induration. The edges of the ulcer are raised and the floor had unhealthy tissue. The growth was not tender or friable but not tender. (Fig. 1) There was no regional lymphadenopathy. A provisional diagnosis of a basal cell carcinoma was made. We planned for wide local excision and flap cover of the ensuing defect of the right soft triangle, parts of right ala and nasal tip. (Fig. 2) Under general anaesthesia, wide local excision of the lesion was done with a 5mm margin. (Fig. 3) The defect was covered with a superiorly-based nasolabial flap cover after planning in reverse and inset given with 5-0 nylon sutures after securing haemostasis. The secondary defect was closed primarily. (Fig. 4) Post-operative was uneventful. Sutures were removed on the 10th post-operative day and the patient was discharged. Histopathological examination confirmed as a basal cell carcinoma of the nodular type with all margins free from tumour. After 3 weeks the pedicle of the flap was divided under local anaesthesia and inset was given with 5-0 nylon sutures (Fig. 5).

Fig-1: Clinical photograph of the patient – frontal (a) and worm's eye (b) views

Fig-2: Marking of excision margin and flap

Fig-3: Defect after wide local excision

Fig-4: Early post-operative picture

Fig-5: Photograph after flap division & inset

DISCUSSION

The subunit principle is often applied to areas of the nose that have convex central subunits, such as the ala [5]. The nasolabial crease runs obliquely from approximately 1 cm superior to the lateral alar rim to approximately 1 cm lateral to the corner of the mouth. An extensive subdermal vascular plexus from facial, angular, infraorbital and transverse facial arteries supply this region [6]. The flap is commonly designed lateral to the nasolabial fold with the medial limit of the flap 2–3 mm lateral to this fold [7]. In the superiorly based NLF, the base of the flap is near the ala and the apex is in line with the oral commissure [7]. At times, when extra length (10–12 cm) is reqiured, it can be extended to the skin over the mandibular border; this being is called an extended NLF [9]. In the inferiorly based nasolabial flap the apex of the flap is 5–7 mm lateral to the medial canthus [10]. The majority of the NLFs are random pattern [11]. Some NLFs can be designed to have an axial pattern blood supply which include the Inferiorly based axial nasolabial flap that is nourished by facial artery and the superiorly based reverse flow NLF containing angular artery [12, 13]. Different types of the nasolabial flap based on flap composition are described which are Buried or Skinless NLF, Defatted NLF consisting of epidermis and dermis, Ordinary NLF with epidermis, dermis and subcutaneous fat, Myocutaneous NLF with skin and muscles of facial expression and a Full thickness NLF with skin, muscles of facial expression and the buccal mucosa. The composite nasolabial flap is another variant which is an ordinary NLF lined with the skin and is supported by cartilage is usually limited for nasal reconstruction [14]. Contralateral NLF can be considered for midline defects when ipsilateral flap is not available for reconstruction [15]. Superiorly based NLFs are used exclusively in used for full-thickness alar defect

reconstruction and they can be either folded NLF or a bipaddled variant [16, 17. The skin island variant of the NLF for facial reconstruction is mandatory when advancement or tunnelized NLFs are used for facial skin reconstruction, especially to avoid the second stage surgery for pedicle division in the tunnelized variant [18] The skin island nasolabial flap or subcutaneous pedicled NLF is the only variant of the NLF available for intraoral reconstruction. Periosteal suspension sutures and minimal eversion of the skin during closure of donor site is advised to prevent flat cheek formation if the nasolabial fold is incorporated into the flap [19]. The nasolabial flap is therefore an ideal flap for repair of full-thickness defects of the ala as it provides a three-dimensional shape, soft and pliable skin that can be used with a cartilage graft.

CONCLUSION

The nasolabial flap is a robust and versatile flap that can be used to reconstruct many areas of the nose like the nasal tip, dorsum, and soft triangle. Precautions such as aggressive thinning of the flap prior to inset and in setting the flap into position under a slight amount of tension must be done to achieve good aesthetic outcome.

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