

Nasolabial flap for nasal reconstruction . A case report

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Case Report

Plastic Surgery



Background: The nose is a frequent site for cutaneous cancers, especially basal cell and squamous cell carcinoma, due to its prominent location on the face and high sun exposure. Surgery remains the first-line treatment for the removal of oncologic tissue, but it often leaves complex defects that are difficult to manage from both form and function standpoints. The nasolabial flap (NFL) is a potent and versatile local flap that has become indispensable in nasal reconstruction. The nasolabial flap is used for small defects, allowing one-stage reconstruction with the donor site scar hidden in the nasolabial fold.

Keywords: Nasolabial Flap, Nasal defects, Nose reconstruction, Alar reconstruction, Skin cancer.

Nasal reconstruction is one of the most challenging aspects of facial plastic surgery, especially in the reconstruction of partial and total deformities. The nose is the characteristic feature of the human face. Its central position and projection increase its artistic importance but also expose it to frequent injury¹. Tissue loss may be congenital, infectious, traumatic, or neoplastic in origin, and even minor irregularities or deformities are readily apparent. Repair of nasal defects following skin cancer excision is a unique challenge in plastic and reconstructive surgery. The nose is the most common site for nonmelanoma skin cancers, accounting for up to 80% of basal cell carcinoma (BCC) cases in this area. Its central location, complex three-dimensional topography, and essential role in respiration require a balance between total tumor removal and ideal aesthetic and functional restoration². Techniques used for correction of nasal deformities include local and free flaps. The better quality of color and texture of the forehead skin has made it the best donor site for nasal resurfacing. The NLF, originally created for the ALA, has been adapted successfully to correct isolated deformities of the nasal tip and dorsum³. This is particularly useful in individuals where a paramedian forehead flap is less desirable, such as in the elderly or medically compromised.

Knowledge of the anatomy of the nasolabial region is necessary for the safe and successful elevation of the flap. It runs in a straight line from 1 cm above and lateral to the ala of the nose to 1 cm lateral to the oral commissure⁴. The flap is obtained by cutting the big cheek adipose tissue next to this fold. The NLF is a fasciocutaneous flap with a constant and robust blood supply derived from the rich subdermal plexus. The main blood flow is provided by the

perforating branches of the facial artery below and by the angular artery above. The double blood supply allows the creation of a flap on the superior or inferior base. The superiorly based flap, fed by the angular artery, is used mainly for reconstruction of the nose. The inferiorly based flap, supplied by the facial artery, is usually used for lip and intraoral lesions⁵. This enables the flap to be created in a random pattern for a variety of facial applications and makes it thinner and more pliable for maximum tissue compatibility⁶.

Case report

We admitted a 81-year-old male patient to our clinic with a chronic lesion of the nasal dorsum. After the diagnosis of basal cell carcinoma (BCC) was confirmed, the lesion was excised with adequate margins. The resulting defect measured 3 x 5 cm and involved the nasal dorsum. The defect was covered using a 4 × 6 cm nasolabial flap. The donor site of the flap was largely closed. There was no recurrence of the lesion and a satisfactory outcome. The lesion did not recur, and 16 months after the operation, the outcome was satisfactory. 16 months after the operation. Three months after surgery the scars at both the donor and recipient sites were barely visible. The patient had natural characteristics and a wonderful result. The patient's natural characteristics contributed to achieving a fantastic result with minimal volume. with little volume.

Discussion

Resection of basal cell carcinoma and reconstruction of nasal abnormalities is a classic issue in facial plastic and reconstructive surgery that

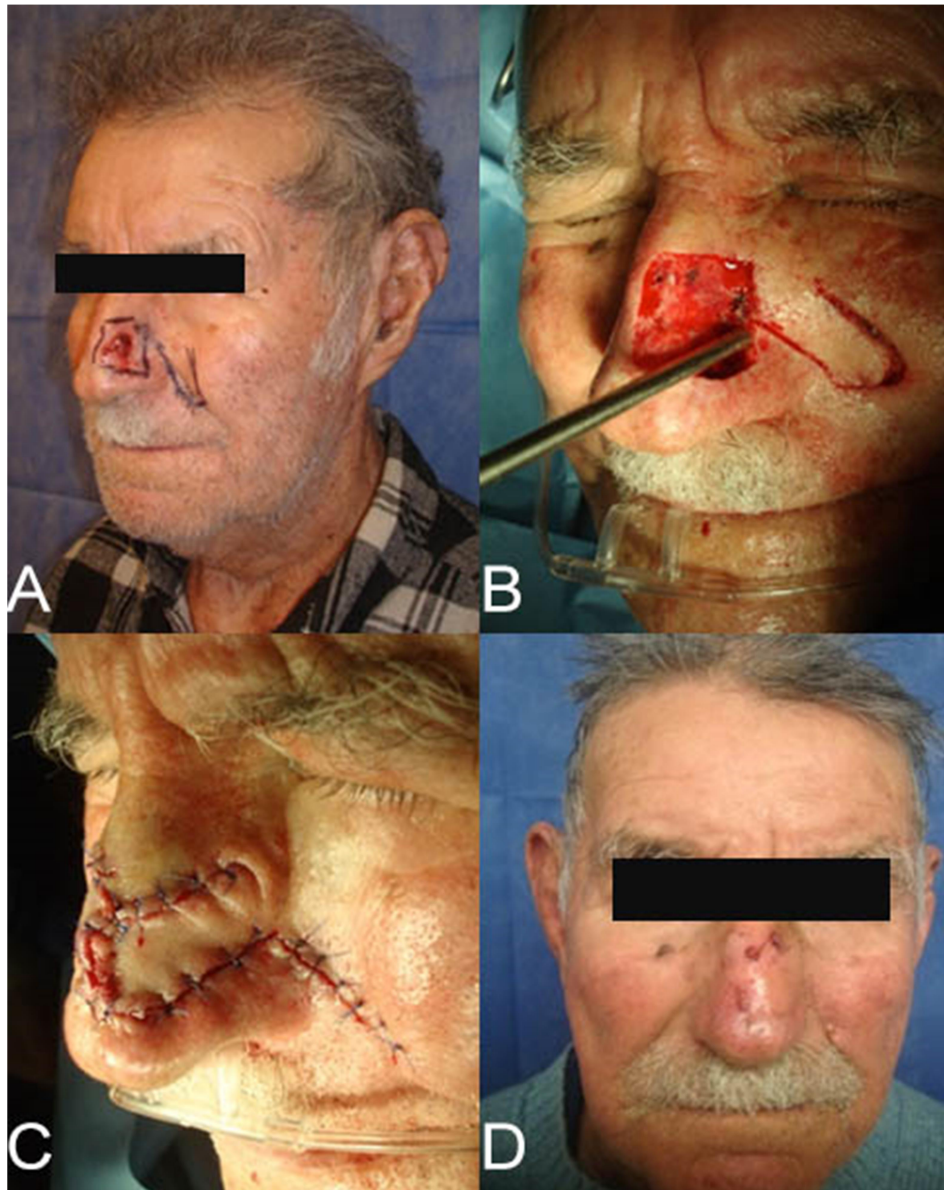


Figure 1. A. skin lesion, basal cell cancer on nasal dorsum, presurgical marking. B. Nasal defect (3-5 cm) following oncological resection. C. Nasolabial Flap Cover, for Dorsum Nasal Oncological Defect. D. Follow Up, 2 Months after Surgery, Nasolabial Flap.

requires advanced understanding of both the esthetic anatomy of the face and oncological concepts⁷. The nasal area is a significant face unit of great esthetic importance. The aim of any reconstructive endeavor should therefore be that of restoring the natural shape, symmetry and skin quality with absolute oncological clearance. The nasolabial flap has the best advantage of an excellent tissue match. Embryonically generated skin of the nasolabial fold has histologic characteristics similar to nasal skin, including thickness, sebaceous quality and vascularity. This natural match results in an excellent colour and texture match post-operatively, which is vital to the “invisibility” that defines effective facial reconstruction. While technically straightforward, skin grafting generally results in a patchwork appearance with contour flaws and a major colour mismatch, frequently requiring revision treatments later⁸. The

forehead flap gives good quality of tissue, but is a multistage procedure with a conspicuous donor site scar on the forehead. Such a trade off may not be in the best interest of a large number of patients, notably the elderly and those with co-morbidities. The nasolabial area is comprised of cheek tissue that contains the nasolabial fold which goes from the ala to the oral commissure. It may be extracted from the surplus tissue which runs from the inner canthus to the lower border of the jaw, especially in the elderly patients. The nasolabial region is formed of cheek tissue that contains the nasolabial fold extending from the ala to the oral commissure. It can be extracted from the superfluous tissue that goes from the inner canthus to the lower border of the jaw, especially in the older patient. The area is a suitable donor area for nasal abnormalities because of proximity, colour match and ease of transfer to recipient portions of the

nose. Undermining skin medial to the nasolabial fold may distort the alae, lip, or oral commissure. The vascular anatomy of the NLF with abundant anastomotic network connecting the facial and angular artery ensures the survival of the flap in the patients with poor vascularity state. There are several varieties of the NLF, such as the transposition, advancement, and island flaps, each of which is meant to address a certain defect characteristic and location, further highlighting its versatility⁹. The transposition flap has been particularly useful for dorsal nasal abnormalities, allowing the surgeon to obtain cheek tissue while retaining the integrity of the boundaries of the nasal subunits. The notion of the aesthetic subunit cannot be overemphasized; incisions located in natural creases and boundaries are significantly less conspicuous and lead to better cosmetic results. The NLF still has its problems, however. Its arc of reach and rotation is small, usually limited to the bottom and middle thirds of the nose. It is not often suitable for big deformities involving the top nasal dorsum or whole nasal pyramid¹⁰. In such circumstances, the paramedian forehead flap is still considered the gold standard, with its abundant tissue source and strong pedicle, thus ensuring the successful repair of massive lesions¹¹. Surgeons should be aware of possible problems such as trapdoor deformity, distal flap necrosis and venous congestion. The surgeon should be aware of the possible consequences such as trapdoor deformity, distal flap necrosis and venous congestion. The surgeons must be aware of possible problems such as trapdoor deformity, distal flap necrosis and venous congestion¹². The surgeon should carefully thin the subcutaneous tissue of the flap to match the thickness of the recipient site and build the flap with a broad pedicle to assure sufficient perfusion. Venous congestion is rare, and leech therapy or reduction of stress on the pedicle system may be employed for treatment¹³. In the case of big or compromised flaps a two-stage NLF may be used to boost survival rates. Division and inset of the pedicle follows a period of neovascularisation¹⁴.

Conclusion

In conclusion, that's why the nasolabial flap is an important part of nose reconstruction after basal cell carcinoma removal. Its advantages in tissue matching, vascular reliability, single stage surgery and low donor-site morbidity make it a good choice for cosmetic surgeons. It has excellent blood flow, superior tissue matching, low donor site morbidity and the ability to self-repair in a single stage, and is better than grafts and more complex regional flaps, especially for alar and sidewall defects. The nasolabial flap remains an integral, durable part of reconstructive surgery. It has a good risk-benefit ratio. It is especially

useful for older patients or patients with other health problems.

Conflicts of interests

The authors declare no conflicts of interests.

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