

Giant bilobed facial flap for cheek reconstruction

Agustín González Cobvarrubias M.D.
 Irais Pamela Pineda Tapia M.D.
 Jose Daniel Becerril Hernandez M.D.
 Daniel Orea Estudillo M.D.
 María Teresa Rodríguez Pérez M.D.

Puebla, Mexico

Case Report

Plastic Surgery



Introduction: Given the rise in incidence of cutaneous malignant neoplasms of the head and neck, the repair of facial defects via local cutaneous flaps is an important component of a facial plastic surgeon's repertoire.

Defects in head and neck after tumor resection often provide significant functional and cosmetic deformity. The challenge for reconstruction is not only the aesthetic result, but the functional repair.

A 68-year-old female patient was referred with an ulcerated erythematous exophytic mass on the cheek, which compromised the infraorbital region, as well as the zygomatic region, which presented progressive growth during the last 5 years, on examination, a 5 x 4 cm mass of stone characteristics on palpation, suggestive of squamous cell cancer.

She is evaluated by the surgical oncology service, a candidate for wide resection and reconstruction with a bilobed flap.

Patient with resection with free edges, in definitive histopathological epidermoid type carcinoma, with adequate evolution in the postoperative period, presenting hematoma formation, which is resolved without subsequent complications.

Key Words: Face reconstruction, cheek reconstruction, bilobed flap.

Introduction

Given the rise in incidence of cutaneous malignant neoplasms of the head and neck, the repair of facial defects via local cutaneous flaps is an important component of a facial plastic surgeon's repertoire.(1)

Defects in head and neck after tumor resection often provide significant functional and cosmetic deformity. The challenge for reconstruction is not only the aesthetic result, but the functional repair. Cancer may involve composite elements and the resection may lead to an extensive tissue defect.(2)

Non-melanoma skin cancer includes basal cell carcinoma and squamous cell carcinoma.(3) In general, a very small proportion of non-melanoma skin cancers can behave aggressively, with extensive local invasion, multiple recurrences and occasionally, metastases, even after extensive surgery, and they have major functional, physical and social impact on the patient.(3)

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cheek, which compromised the infraorbital region, as well as the zygomatic region, which presented progressive growth during the last 5 years, on examination, a 5 x 4 cm mass of stone characteristics on palpation, suggestive of squamous cell cancer.

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Discussion

Squamous cell carcinoma accounts for most nonmelanoma skin cancer-related metastatic disease and deaths. Histopathology and correct surgical excision remain the gold standard for the diagnosis and treatment.(4)

It develops in adults over 50 years of age, mainly. It is more common in males, although in Mexico the frequency is similar between men and women.(5)



Figure 1. Ulcerated erythematous exophytic mass on the cheek, which compromised the infraorbital region, as well as the zygomatic region, 5 x 4 cm mass of stone characteristics on palpation, suggestive of squamous cell cancer.

Although many factors can increase the risk, cumulative sun exposure, especially in childhood and youth, is of greatest importance.(4)

Presumptive diagnosis is based on the physician's interpretation of clinical information, including appearance and morphology, anatomic location, and patient-reported history. While the most frequent clinical presentation of in situ is an erythematous scaly patch or slightly elevated plaque, which is barely noticed by the patients, invasive SCC is often ulcerated and can be patchy, papulonodular, papillomatous, or exophytic.(4)

Reconstructive Techniques

Reconstructive surgeons have often approached head and neck defects with the reconstructive ladder concept.(6)

Facial deformities affect the impression of an individual, with greater cognitive import given to deformities of the central face compared with those located more laterally.(1) The cognitive penalty imposed by scarring and distortion of facial features is severe; they negatively affect the perception of a patient's honesty, employability, trustworthiness, and overall capability.(1)

Well-established principles include replacing losses in kind. Factors to consider when planning reconstruction include aesthetic subunits, relaxed skin



Figure 2. Resection of the tumor.

tension lines, available tissue recruitment areas, structures that should not be distorted, and the patient's ability to participate in postoperative care.(6)

Local flaps have several advantages over healing by secondary intention and skin grafting, including better color and texture match and decreased wound contraction.(6)

Flaps may be categorized according to movement and/or blood supply. The basic flap movement types are advancement, rotation, and transposition. Advancement flaps are designed by moving tissue adjacent to the defect in linear direction, while rotation flaps are curvilinear and rotate about a pivot point into the defect.(6)

Transposition flaps are lifted over an incomplete skin bridge into the defect; Transposition flap examples include the rhombic and bilobe.(6)

Cervicofacial advancement and rotation flaps are commonly used for upper medial cheek defects.(6)

Cheek Defect reconstructive option.

When considering the optimal reconstructive options for a particular cheek defect, familiarity with the basic anatomy of the face is critical, including both surface anatomy and contour arising from the underlying bony structures and soft tissues.(7) The primary reconstructive goals of cheek defects include restoration of skin color and texture.(7)

The cheek is the largest facial aesthetic region and is typically divided into zygomatic,



Figure 3. Dissection and elevation of the flap.

parotidomasseteric, infraorbital, and buccal aesthetic units. (1)

The topography of the cheek is determined from the aforementioned retaining ligaments and fibrous attachments to the superficial musculoaponeurotic system (SMAS), as well as the underlying facial skeleton, malar fat pad, and the muscles of facial expression.(7)

The vascular supply to the cheek skin is derived primarily from branches of the external carotid artery and is of critical importance when considering flap design to optimize potential flap viability. The primary arterial supply to the cheek skin is the facial artery and its angular branch. Additional arterial contributions to the cheek include the infraorbital branch of internal maxillary artery and the transverse facial branch of superficial temporal artery.(7)

As in all local flap reconstructions, the goal is to place incisions in natural skin creases or borders between facial aesthetic regions while avoiding distortion of the lower eyelid, the vermiliocutaneous junction, and the nostril margin.(1)

The bilobed flap

The bilobed flap is a double transposition flap with a rotational component made up of two lobes that share a single vascular pedicle. Each lobe pivots around a point of rotation located at its base.(8)

Was initially introduced for skin defects reconstruction after cancer of the nose resection. It is a double transposition flap described by Esser in 1918 and modified by Zitelli in 1989.(9)

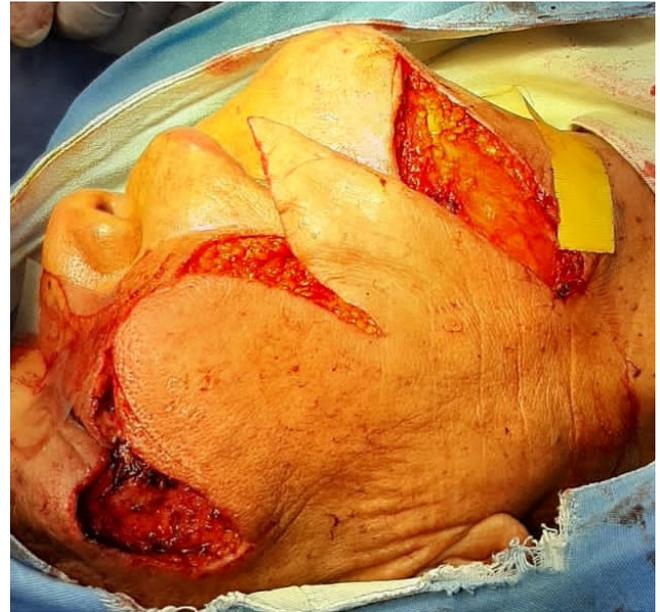


Figure 4. Flap transposition.

The particular advantage of the bilobed flap is that it allows surgeons to recruit tissue from a distant site one not really adjacent to the defect but somewhat removed to close a defect.(10)

Complications With Local Flaps

Major complications after local flap reconstruction are extremely rare. All flaps are subject to postoperative wound infection, hemorrhage, and the formation of hematomas or seromas. Flap necrosis may occur from excessive tension on wound edges.(10)

Partial flap necrosis is best treated with wound debridement and local wound care.

Partial thickness injuries may not affect the long-term aesthetic outcome; however, full-thickness necrosis may result in a depressed scar that is best left to heal through secondary intention.(10)

It is prudent to resist the temptation for immediate revision and delay any secondary procedures until after the wound has adequately healed.(10)

Conclusion

Reconstruction after resection of tumors in the face has become a therapeutic challenge with the implementation of extensive skin resections, the bilobed flap initially described for reconstruction of the nose has been modified, taking advantage of the gain in covering tissue. The case of a successful management of a giant bilobed flap in an unusual location, as an effective surgical tool, obtaining adequate functional and aesthetic results.



Figure 5. Flap suture.

Agustín González Covarrubias
Oncology Unit
Southern Medical Complex Puebla General Hospital
Puebla, Mexico
guty_x@hotmail.com

Conflicts of interests

There was no conflict of interest during the study, and it was not funded by any organization.

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