



CASE REPORT

Association of supraclavicular fasciocutaneous flap and pectoralis major myocutaneous flap for face reconstruction after excision of invasive squamous-cell carcinoma

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Abstract

In reconstructions of extensive head and neck injuries, the flaps used must allow the lesions to be closed without contracture and offer minimization of esthetic damage. To report the strategy of reconstructing an extensive and complex lesion on the face after excision of a malignant skin lesion. Male, 34 years old, with anatomopathological diagnosis of squamous-cell carcinoma with compromised margins. The patient underwent extensive resection of the lesion and subsequent reconstruction. Extensive resections often lead to the need for use of combined flaps for reconstruction. Association of pectoralis major myocutaneous flaps with supraclavicular fasciocutaneous flaps allowed effective reconstruction in the clinical case presented.

Keywords: facial reconstruction; combined flaps; myocutaneous flap; supraclavicular fasciocutaneous flap.

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Introduction

Reconstructive surgery after extensive resection of head and neck tumors is challenged by anatomical, esthetic and functional aspects. Microsurgical flaps are the standard of care for complex facial reconstructions; however, this method requires specialized centers, individualized training, and prolonged surgical time. In smokers, clinically debilitated and malnourished patients, this type of surgery is extremely difficult to perform. In these cases, pedicled regional flaps are an alternative, as they enable simpler and faster reconstructions compared with the microsurgical technique¹.

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Case report

A 34-year-old male patient (G.C.O.) with a history of lesion on the right malar skin treated with excision at another surgical service. The pathological diagnosis was squamous-cell carcinoma with compromised margins. The patient underwent a new surgery at the service of origin and, once again, presented compromised surgical margins due to the lesion in a new pathological examination. He was then, at that time, referred to radiotherapy, and evolved with extensive necrosis and local recurrence (Figure 1). After that, he was transferred to the current team, who opted for a wide resection of the lesion (Figure 2), and requested support for reconstruction. An option was



Figure 1. Patient with recurrent lesion and extensive necrosis.



Figure 2. Resected lesion and designed flaps.

made for reconstruction with two flaps: combined muscle and fasciocutaneous (Figure 3A and B). Aiming not to compromise the vascularization of the pedicles and reduce surgical time, the flaps were made with external and tubed pedicles by suturing their bases, so that one flap did not compress the pedicle of the other (Figure 4). After 24 days, the pedicles were sectioned and their bases were regularized. The flaps showed good evolution (Figure 5). Subsequently, the patient was referred to chemotherapy.

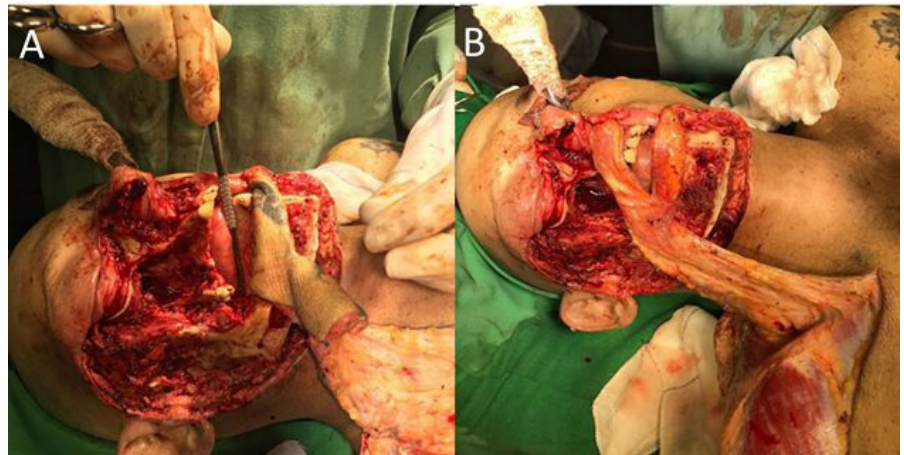


Figure 3. (A) Supraclavicular fasciocutaneous flap positioned and (B) supraclavicular flap for repair of the oral mucosa.



Figure 4. Positioned flaps and exposed pedicles.



Figure 5. Patient, postoperatively.

Discussion

In the present clinical case, a choice was made for the transposition of two simultaneous flaps¹: supraclavicular fasciocutaneous flap for reconstruction of the oral cavity² and pectoralis major myocutaneous flap for external facial reconstruction³. This case report presents the strategy for reconstructing an extensive and complex lesion on the face after excision of a recurrent, invasive, malignant lesion of the skin, using two remote flaps and performed simultaneously.

The deltopectoral and pectoralis major myocutaneous flaps have become important alternatives in head and neck reconstructions⁴. The development of myocutaneous flaps, particularly the new pectoralis major myocutaneous flap described by Ariyan in 1979, has facilitated the reconstruction of large lesions in the head and neck region⁵⁻⁷. The main vascular pedicle, based on the thoracoacromial artery, is reliable and robust, lying lateral to the line drawn between the acromion and the xiphoid. It allows a good arc of rotation, reaching the inferior orbital margin, and its thickness can cover deeper defects³. However, flap thickness is a problem, as it hinders tissue accommodation, and the lateralized pedicle can kink and lead to vascularization problems.

Another option to be used in facial reconstruction is the supraclavicular fasciocutaneous flap^{2,8}. This technique was described by Kazanjian and Converse in 1949, when flaps were mobilized randomly² and commonly

used for cervical scarring contractures. The supraclavicular pedicle originates in the transverse cervical vessels and is located at the base of the neck, more specifically in the triangle formed by the posterior edge of the sternocleidomastoid, external jugular vein, and medial portion of the clavicle. Its medial position allows a wide arc of rotation, up to 180°. In the late 1970s, Lamberty described the supraclavicular vessels as the axial irrigation of these flaps. A study conducted by Pallua⁹ in 2000 reported the first head and neck reconstructions using this flap. Di Benedetto et al.⁸ focused on the use of this flap to reconstruct the oral mucosa after tumor resection. It is a thin flap, with a large arc of rotation that can be easily and rapidly transposed^{2,8}.

Extensive resections often lead to the need for use of combined flaps for reconstruction¹. Head and neck reconstructions may have a three-dimensional component and require reconstruction of the oral or nasal cavities, which, in addition to the external skin coverage, require reconstruction of the internal mucosa³. In this case report, due to the extent of the oncological resection, which led to a massive loss of face tissue, a choice was made for the combine flap reconstruction previously described¹. The pectoralis major myocutaneous flap was transposed to cover the face skin and external volume³, whereas the supraclavicular fasciocutaneous flap was transposed to reconstruct the mucosa and oral cavity^{2,8,9}. To minimize the possibility of vascular complication, the surgical team opted to leave the pedicles exposed and tube them by bringing the base of the two flaps together, transforming them into a mixed cylindrical structure that allowed good vascular perfusion. The pedicles were released and regularized on the 24th postoperative day.

Final remarks

The association of two regional flaps, pectoralis major myocutaneous and supraclavicular fasciocutaneous, enabled an effective and practical reconstruction of a challenging facial situation, and proved to be an alternative to microsurgery in an extremely complex case.

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