



Mucosal and local skin flap reconstruction for loss of substance in the cheek region

Associação de retalho mucoso e retalho cutâneo local na reconstrução de perda de substância em região da bochecha

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■ ABSTRACT

The face is an important structure, because it is the most visible part of the body and contains delicate and complex elements that are essential for aesthetics and functionality. Facial reconstruction of areas with substantial substance loss remains a surgical challenge. There are several repair options, with corresponding advantages and disadvantages. We present a case of a patient with substance loss of the total thickness of the cheek region who received mucosal and local skin flap surgery, with good results and functional preservation.

Keywords: Reconstruction; Face; Cheek; Surgical flaps.

■ ABSTRACT

The face is an important structure in humans due to being the most visible part of the body and contain delicate and complex elements that are essential in terms of beauty and functionality. The facial reconstructions in areas of large losses of substances remain a challenge for surgeons. Several repair options exists, all with their advantages and disadvantages. We show the case of a patient with total thickness loss of substance in the region of the cheek submitted to association of mucosal flap and a local flap skin showing good result and functional preservation.

Keywords: Reconstruction; Face; Cheek; Surgical flaps.

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INTRODUCTION

The face is an important structure because it is the most visible part of the body and contains delicate and complex elements that are essential for aesthetics and functionality¹.

From an aesthetic point of view, the cheek area can be divided into three units according to location: suborbital, preauricular, and buccomandibular². The buccomandibular region is comprised of four layers: the skin, subcutaneous region, superficial musculoaponeurotic system (SMAS), and oral mucosa, that are reconstructed in multiple surgical planes.

Many forms of reconstruction have been described, from the superficial layer to the oral mucosa.

Primary closure, partial and full skin grafts, local flaps (cutaneous and myocutaneous), free flaps, and tissue expansion have been described as options for reconstruction of the superficial plane¹⁻¹⁰.

Mucosal defects in the oral cavity resulting from tumor resections or acute or chronic infectious processes may cause significant functional and aesthetic deficits, but can be reconstructed with primary closure, closure by secondary intention with mucosalization, skin grafting, tongue flap, local skin flaps, and free flaps^{7,9}.

METHODS

A 33-year-old male mulatto university student from Pirapora, Minas Gerais, was single, HIV-positive, and had a history of tonsillitis six years prior, which evolved to bilateral facial cellulitis (oral region). He was initially treated with penicillin, but had an allergic reaction and remained hospitalized for (unnamed) antibiotic therapy. The cellulitis evolved to abscess and local necrosis. The left side closed spontaneously, but the right side had a large area with total thickness loss of substance. A graft was attempted at the time without satisfactory results.

On examination, we found significant bilateral facial atrophy and extensive areas with loss of substance on the right side, as shown in Figures 1 and 2. During the previous six years, the patient used occlusive dressings, changing them several times daily and whenever he ate.

His infectious disease was monitored frequently, he correctly used his prescribed antiretroviral therapy, and did not have contraindications to surgery.

RESULTS

Surgical procedure

The patient was placed under general anesthesia, with skin and oral cavity antiseptis therapy. First, an incision was made on the border between the skin and oral mucosa regions (mucosalization), with dissection of the mucosal plane, to form two



Figure 1. Previous view showing important bilateral hypotrophy and area of complex substance losses on the right.



Figure 2. Lateral view showing significant hypotrophy and area with complete substance loss on the right side.

mucosal flaps. Sutures were inserted two planes to preserve the mucosal layer in the intraoral region (Figures 3, 4, and 5).

Next was dissection of the skin flap in the supra-SMAS plane of the third middle facial region to fabricate a lateral transposition flap and closing by planes, followed by site dressing (Figures 6 and 7).



Figure 3. Image showing detachment of the mucosal area.



Figure 4. Image showing the end stage of making a mucosal flap.



Figure 5. Image showing the suturing of two planes of the mucosal flap.



Figure 6. Making local skin flap.



Figure 7. Final appearance after surgery. Note the suction drain.

After surgery, the patient underwent antibiotic treatment with clindamycin as well as vacuum aspiration drainage.

On the seventh day after the procedure, the patient presented with a small skin flap with purulent local secretion at the edges. Ciprofloxacin and metronidazole

antibiotics were prescribed for seven days, with good performance and closure by secondary intention. Thus, the procedure provided satisfactory results, with no salivary fistula, preservation of masticatory function, and maintenance-free dressings (Figures 8, 9, and 10).



Figure 8. View at the three month post-operative follow-up.



Figure 9. Right profile view at the three month postoperative follow-up.



Figure 10. Intraoral view showing the integral mucous membranes.

DISCUSSION

Facial reconstruction of areas with large loss of substance remains a challenge for surgeons^{1,3}. There are several repair options with corresponding advantages and disadvantages¹.

Skin grafts are a simple option with little associated morbidity, but the grafts are often a different color and thickness compared to the receiving region, and consequently have generally unsatisfactory aesthetic results^{1,3,6}.

Free flaps are an excellent choice, but the procedure requires appropriate structure and staff with microsurgery experience. They may present complications such as infection, thrombosis, and flap loss^{3,4,8,9}.

Local flaps, as presented here, are often a good choice because they offer matching skin color and similar texture, and have reduced risks for patients with comorbidities; however, they have limited application for correcting extensive damage. Examples of commonly used flaps and techniques include Esser flaps, Blascowicz, Ferris Smith, Mustardé, Converse, Stark, Juri and Juri, Zide and Schruder, and Kroll^{6,11,12}.

Proper oral function and aesthetic results are the goal of oral cavity reconstruction, and skin grafts, local skin flaps, and free flaps are options for reconstruction of the oral mucosa. Tongue flaps

are also an option, but may result in chewing and swallowing changes^{7,9}.

Reconstruction of large facial substance loss is a surgical challenge and the combined use mucosal and local skin flaps is a good option for reconstruction of the total thickness of the cheek region, offering low morbidity and similar tissue.

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