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RECONSTRUCTION OF A LOWER LIP DEFECT WITH BILATERAL NASOLABIAL MUSCULOCUTANEOUS FLAP. CASE REPORT

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Abstract: *Squamous cell carcinoma is the most common form of malignant tumour in the lower lip and its radical excision sometimes leads to complex defects. The treatment of squamous cell carcinoma of the lower lip is mainly surgical and consists of complete excision of the tumour, followed by immediate reconstruction. Although the nasolabial flap is a common flap used in the reconstruction of facial defects, it is an underestimated option in the reconstruction of the lower lip. We describe the reconstruction of a large defect of the lower lip that includes the bilateral commissures and ¼ of the upper lip, left side, in a 76-year-old male patient. Bilateral musculocutaneous nasolabial flap was used, with good functional results and an acceptable cosmetic result. We believe that the nasolabial flap is a good alternative for large lip defects both for patients with an affected general condition, but also as an alternative to existing flaps.*

INTRODUCTION

Lips, in addition to the aesthetic role, play an important functional role in chewing, speech, expression of emotions.

It is the preferred site of squamous cell carcinoma. Factors involved in its etiology are: smoking, HPV infection and immunosuppression.(1) Lip reconstruction techniques have two objectives: restoring function, an essential objective, but also obtaining a satisfactory aesthetic result. Surgical excision, the mainstay of treatment, often leads to large defects with complex volumetry and topography. Most lip repair techniques were developed during the 19th century. The abundance of classic flaps reflects their inconsistency with the need for coverage for a certain type of defect. Therefore, it is necessary to adjust the existing options to the surgical defects and to the patient's comorbidities.

The use of the nasolabial flap is an old technique of covering defects in the face, which appear after surgical excisions. The nasolabial flap is a versatile flap and has become a reconstructive alternative for both the upper and lower lip.(2,3) Recently, attention has been paid to this flap, especially in the context of elderly patients with comorbidities.(4)

Fujimori and Nakajiama point out some criteria to be considered when planning a lower lip reconstruction.(5)

1. The flap should be a local flap that should also include muscles.
2. All sutures should be in the natural facial folds.
3. The flap must be thick enough to contain all the anatomical elements of the lips.
4. Newly reconstructed lips should not produce microstomia.

Local flaps are the first choice in the reconstruction of lip defects. If the defect is complex, then we can discuss about the realization of a free flap. In a new algorithm made by (6) for lip defects larger than 30%, simple, with the involvement of the commissures, the nasolabial flap represents the first choice.

The case presented is an option for reconstruction of a huge defect that appeared after the resection of a squamous cell carcinoma that included the entire lower lip, both commissures and ¼ in the left half of the upper lip.

CASE REPORT

A 76-year-old man with associated diseases has an ulcerated exophytic tumour, extended to the mucosa, which includes the entire lower lip, both commissures and ¼ on the left side of the upper lip (figure no. 1).

Figure no. 1. Preoperative appearance

The formation evolved for about 2 years and no lymph nodes were detected during the clinical examination (figure no. 2).

The surgery was performed with the patient under general anesthesia.

The radical excision resulted in a defect in the entire thickness that included the lower lip, both commissures and ¼ in the upper left lip (figure no. 3).

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Two pedicled musculocutaneous nasolabial flaps less than 3 cm and 7 cm long, following the nasolabial groove, were used. The two flaps were rotated and transposed in defect, avoiding the destruction of the bilateral modiolus.

Figure no. 2. Preoperative appearance

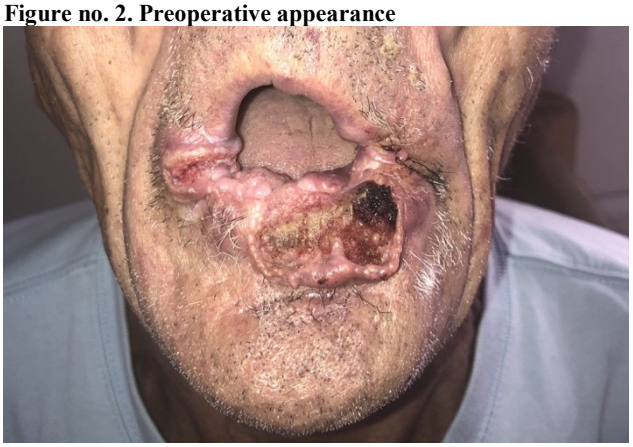
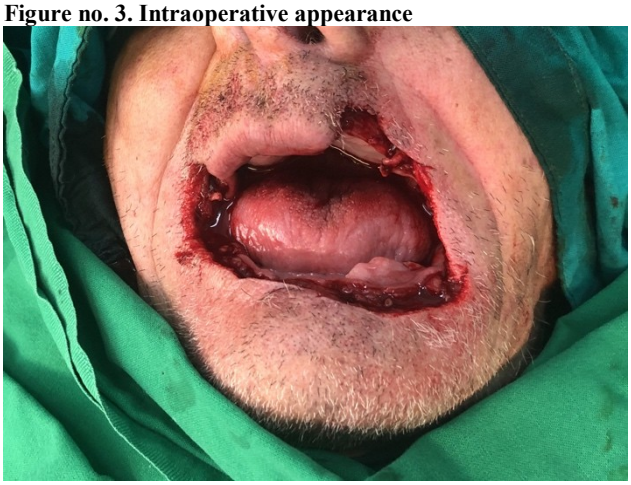


Figure no. 3. Intraoperative appearance



The two flaps are positioned on top of each other in the sandwich-like technique. (7) The orbicularis of the upper lip is anchored to the ipsilateral modiolus. Bilaterally and inferiorly, each muscle in the nasolabial musculocutaneous flap is anchored to the contralateral modiolus. Mucosal defects resulting from resection were closed by advancing local mucosal flaps.

Postoperatively, the evolution was favourable without complications. Postoperatively, the patient does not have incontinence for fluids, with an acceptable functional and cosmetic result (figures no.4, 5, 6).

Figure no. 4. One month postoperative appearance

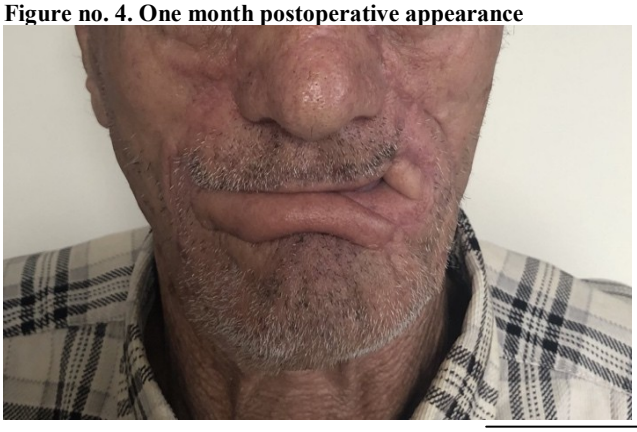
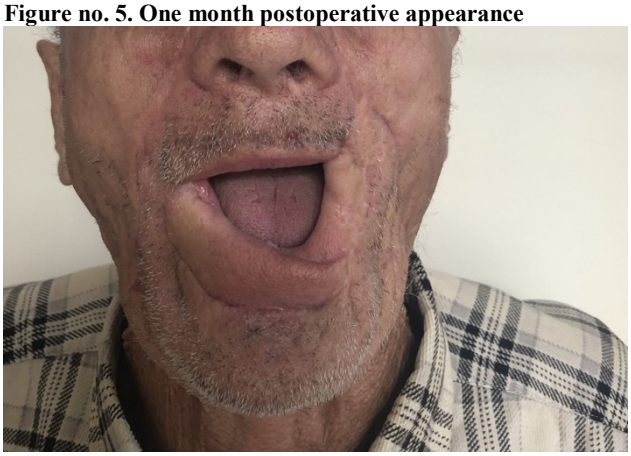
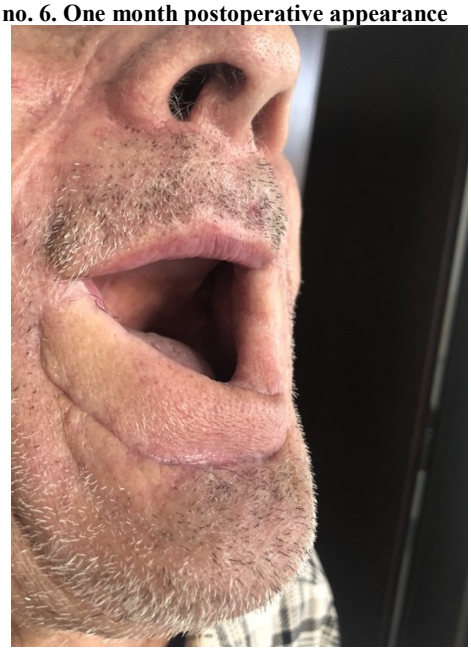


Figure no. 5. One month postoperative appearance



The patient was monitored for 6 months without local or regional recurrence, but later he was removed from the medical records.

Figure no. 6. One month postoperative appearance



DISCUSSIONS

The incidence of invasive squamous cell carcinoma of the lower lip is relatively high (about 90% of the lip tumor and 30% of whole oral cavity tumors). Usually, patients are referred in early stages for surgical treatment. Ideally reconstruction of the lower lip should be done with the same kind of tissue. This target can be reached in lower lip defect up to 1/3 of the same kind of tissue.

Lip defects resulting from surgical excisions benefit from multiple reconstructive methods. Local flaps are preferred to the detriment of the free ones and they are the first option chosen due to the advantages they offer:

- They are similar tissues
- The execution time is shorter
- They can be performed in patients with comorbidities

Free flaps are reserved for cases with extensive and complex defects.

The nasolabial flap is widely used in the reconstruction of defects in the nose, cheek, lower eyelid, due to accessibility, reliability and because it is easy to achieve. It was first described by Von Bruns in 1857 and it can be used in the repair of the lower, upper lip, both unilaterally or bilaterally.

Because nasolabial flap is pedicled on the facial artery helps to ensure flap viability. The flap is not overly time-consuming or technically difficult to master.

Local flaps such as Karapandzic and Burrow Webster are the most commonly used flaps in the reconstruction of large lower lip defects. The Karapandzic flap procedure is a one-stage procedure and the resulting lip is sensitive. The resulting microstomia and distortion of the commissures are the disadvantages of this procedure. The Webster technique can be a solution when the commissures are resected as well.(8) In the defect resulting after resection, I preferred the nasolabial musculocutaneous flaps, because the lower lip is tight and the upper lip is bulky after the reconstruction with the Webster technique. There is also a degree of oral incompetence.

Both nasolabial musculocutaneous and subcutaneous flaps have been described for lip reconstruction.(9) The Fujimori technique consists of performing two nasolabial flap with skin, muscle and mucosa. In this case was used musculocutaneous flap and one nasolabial flap forming the inner lining of the reconstructed lip and second nasolabial flap placed on the first.

The nasolabial flap without muscles is an adynamic flap. In the context of musculocutaneous flaps, the electromyograms performed at 3-6 months detected activity in them, suggesting the reinnervation of the flaps.(10,11)

The morbidity of the donor site is reduced, as well as the length of the intervention and the postoperative period compared to the Karapandzic or Bernard Burrow Webster flaps. The surgical technique is relatively simple compare to free flap and other technique. Nasolabial skin relocated to the lower lip offer a pleasant aspect.

CONCLUSIONS

The use of the musculocutaneous nasolabial flap is a viable alternative for reconstruction in the context of large defects of the lower lips, especially if the commissures are also resected. Easy execution, short operative time, fast recovery make the nasolabial flap an option for elderly patients with comorbidities.(12) Currently, the musculocutaneous flap is a variant of coverage, being the main solution in case of simple defects, which also include commissures.

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