

Lower Lip Oncoplastic Reconstruction Through Bilateral Karapandzic Flap

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Abstract:

Lip squamous cell carcinoma (SCC) is the most common type of lip cancer, and the most common area is the lower lip, comprising approximately 90%. Surgical resection is currently the best method in the treatment of SCC, but it has been associated with anatomical, functional and aesthetic defects

Objective: Report a bilateral neurovascular Karapandzic flap as a solution after an oncological resection of the vermilion lower lip.

Clinical Case: 56 years old male with a moderated differentiated squamous cell carcinoma of the lower lip with an oncologic resection + negative intraoperative frozen cut + I-III selective neck lymph dissection and immediate reconstruction by the Plastic and Reconstructive service through a bilateral Karapandzic flap.

Discussion And Conclusion: Following the treatment of lips carcinoma, surgeons have described many reconstructive techniques to overcome significant defects. The Karapandzic flap is suitable for reconstructing large defects of the lower lip and can be completed quickly and safely in a single procedure. These one has the advantage of preserving blood vessels and nerves of the flaps and allows for the preservation of sphincteric function. Each technique has its advantages and disadvantages, and for flaps, the surgeon must consider factors such as blunting of the repaired commissure, flap loss, sensory loss, lip asymmetry, microstomia, and hypersensitivity, poor oral competence with drooling, undesirable scarring, flap necrosis, and edema, among others.

keywords: karapandzic neurovascular flap; lower lip reconstruction; oral cancer

Introduction

Lip cancer is the most common malignant oral lesion, accounting for 23.6% to 30% of oral cancers. Lip squamous cell carcinoma (SCC) is the most common type of lip cancer, and the most common area is the lower lip, comprising approximately 90%. [1] The lip plays important roles in facial esthetics, communications, and oral functions. As the lip is an anatomically cutaneous and oral mucosa overlap site, lip SCC has a high probability of nodal metastasis and poor prognosis compared with

cutaneous SCC, but it has a good prognosis compared with oral mucosa SCC. [1] Males are found to be more commonly affected by SCC than females. Tobacco, alcohol consumption and the habit of chewing betel nut leaves rolled with lime and tobacco are the common etiological causes for oral cancer. [2] Surgical resection is currently the best method in the treatment of SCC, but it has been associated with anatomical, functional and aesthetic defects. [3]

Case Report

Male 56 years old, with high tobacco consumption and without oncological antecedents, who reports the beginning of current illness 7 months earlier characterized by asymmetric, exofitic and self-detected lesion with irregular edges, hypochromic who compromise full thickness vermilion of the right lower lip from 1.5 x 2.5 cm with ipsilateral cervical lymph nodes. Under local anesthesia, it performs an incisional biopsy who reports moderated differentiated squamous cell carcinoma. Stadiation process show ipsilateral inflammatory cervical lymph nodes and no distant metastases. For that reason, the patient was prepared by a multidisciplinary team and undergo first, under general anesthesia with the Head and Neck surgery service to an oncologic resection + negative intraoperative frozen cut + I-III selective neck lymph dissection and, on a second time immediate reconstruction by the Plastic and Reconstructive service through a bilateral Karapandzic flap. Using a #15 scalpel, we placed a semicircular incision through the nasolabial and mentolabial fold. Then, taking care with a superficial dissection through the orbicularis oris muscle to avoid injury of both vascular pedicle of the labial artery and the sensitive and motor nerves, we used forceps and scissors to obtain sufficient mobility for inferior. Similarly, a flap was prepared on the contralateral side and the bilateral flaps were placed over the defect in the lower lip. Adequate postoperative functional and aesthetic results and continue follow up with radiotherapy.

Discussion

Lower lip reconstruction is crucial to restore oral integrity post-cancer excision. A perfect balance between form and function should be achieved. [4] According Sumida T, Yamada T, et al, [5] the lower lip is an uncommon site for the development of cancer; however, because it is located below the facial midline, reconstruction of defects caused by cancer at this site requires careful consideration of esthetic factors, however it is important to remember that in our center according the lips principles reconstruction, always prevalence the safety oncological resection before decide what type of reconstructive method we choose; in addition, the postoperative function must be taken into account. [5]

The type of flap used for reconstruction is also extremely important. When significant defects are present, clinicians commonly use a combination of different free flaps [5]; but in this case wasn't necessary to use different local, regional or free flaps but was used a bilateral same flap (Karapandzic).

Following the treatment of lips carcinoma, surgeons have described many reconstructive techniques to overcome significant defects, such as the "cross-flap" developed by Abbe and Estlander, using the opposite lip with various proposed modifications, and the Karapandzic technique that was used in our case, this one has the advantage of preserving blood vessels and nerves of the flaps and allows for the preservation of sphincteric function according Yousefi M, Khoshnevis S, Seraj M, et al; [6]. and also according Lozev I, Pidakev I, et al. [7]

Each technique has its advantages and disadvantages, and for flaps, the surgeon must consider factors such as blunting of the repaired commissure, flap loss, sensory loss, lip asymmetry, microstomia, and hypersensitivity, poor oral competence with drooling, undesirable scarring, flap necrosis, and edema, among others. [6]. The Karapandzic flap has the potential risk of blunting the oral commissure and microstomia [6]. having relation with our results taking in count the medial movement of the neocommissure. However, other authors like Suzuki R and Kimura N [8] did described the Karapandzic flap as a suitable for reconstructing large defects of the lower lip and can be completed quickly and safely in a single procedure.

Various modifications of the Karapandzic flap have been tried for the extended involvement of the lower lip by different authors, showing good functional and cosmetic results with various degrees of microstomia. [9] Abulafia et al. described a modification of the Karapandzic flap in a patient involving the lower lip and chin resection by advancing the chin and cheek, showing good functional and aesthetic results. [9] Modification of the Karapandzic method has also been documented by Hanasono and Langstein, where they mobilized soft tissue from the perioral cheek to prevent microstomia. [9]

Finally, according Iqbal Shaikh A, Hafeez Khan A, Tated S, et al. [10] in their case series, local and lip flaps were associated with decreased stoma size and some form of local scarring and asymmetry. However, all patients were satisfied with the functional and aesthetic outcome. In addition, local flaps are better in terms of functional and aesthetic outcome but with some degree of microstomia, which was well tolerated by most patients. [10] like our case report.

Conclusion

Even with the described disadvantage of the microstomia, the Karapandzic or modified Karapandzic flap are both still an excellent reconstructive alternative to the lower lip defects after a huge oncological resection.



Figure1: A full thickness lower lip scc.



FIGURE 2: After Oncological Resection, The Full Thickness Defect of The Lower Lip and The Flap Limits Through the Nasolabial and Mentolabial Fold.



Figure 3: Bilateral Neurovascular Karapandzic Flap.



Figure 4: Result of The Surgery at The Operation Room.

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Conflicts Of Interest

The author declares no conflicts of interest.

Ethical Approval

This research complies with the World Medical Association Declaration of Helsinki on medical protocols and ethics.

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