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Case Report

# Lower Lip Squamous Cell Carcinoma: Resection and Bernard Flap Reconstruction

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## Abstract

Cutaneous squamous cell carcinoma is the second most common malignancy of the skin, with an estimated annual incidence of 700,000 in the United States. Most cases portend an excellent prognosis following surgical removal. However, 3.7% to 5.2% of patients have nodal metastasis and 1.5% to 2.1% die of cutaneous squamous cell carcinoma. The squamous cell carcinoma (SCC) of the lip has a high survival rate and multiple factors have been described in the increasing survival rate, such as early detection, access to healthcare, ethnicity and programmes targeting environmental factors such as smoking and alcohol consumption.

**Objective:** Report a double advancement chin flap as a solution after an oncological resection of the lower lip.

**Clinical Case:** 69 years old male with a moderated differentiated squamous cell carcinoma of the lower lip with an oncologic resection + immediate reconstruction through a double advancement chin flap.

**Discussion and Conclusion:** The squamous cell carcinoma (SCC) of the lip has a high survival rate and multiple factors have been described in the increasing survival rate. Bernard Flap in one of the two ideal options for the lip reconstruction after an oncological full thickness resection of the lower lip. Bernard described to full thickness Burow's triangles through the nasolabial fold in order to make easier medial malar advancement. The Bernard Flap or modified Bernard flap are both still an excellent reconstructive alternative to the lower lip defects after a huge oncological resection.

**Keywords:** Bernard Flap; Burow´S Triangle; Reconstructive Option

## Introduction

Oral cancer is the sixth most common malignancy worldwide [1]. It has long been accepted that tobacco consumption including smokeless tobacco and heavy alcohol consumption are the principal etiologic factors for the development of oral cancer. In addition, a variety of suspected risk factors such as chronic irritation, poor oral hygiene, viral infection, occupational exposure, malnutrition as well as low fruit and vegetable diets, and genetic factors, have been proposed for the development of oral cancer [1]. Cutaneous squamous cell carcinoma is the second most common malignancy of the skin, with an estimated annual incidence of 700,000 in the United States. Most cases portend an excellent

prognosis following surgical removal. However, 3.7% to 5.2% of patients have nodal metastasis and 1.5% to 2.1% die of cutaneous squamous cell carcinoma [2]. Optimal management is predicated on local tumor control because local recurrence is often the first indicator of aggressive biologic behavior [2].

## Case Report

Male 69 years old who do not refer the beginning of current illness by exofitic and ulcered self-detected lesion with irregular edges who compromise full thickness white lower lip from 2.2 x 4 cm without cervical lymph nodes. Under local anesthesia, it performs an incisional biopsy who reports moderated differentiated squamous cell carcinoma. Stadification process does not show local or systemic lymph metastases. For that reason, the patient was prepared and undergo to a local oncologic resection + immediate reconstruction through a double advancement chin flap. Adequate postoperative functional and aesthetic results and continue follow up with radiotherapy.

## Discussion

The squamous cell carcinoma (SCC) of the lip has a high survival rate and multiple factors have been described in the increasing survival rate, such as early detection, access to healthcare, ethnicity and programmes targeting environmental factors such as smoking and alcohol consumption [3]. According Schnur J, Johnson M., *et al*. SCC of the lip occurs in a part of the body that is readily accessible for early detection and yearly dental evaluation can play a role in cancer screening, having relation with the described by the patient who said that he was able to self-detected but wait too much time before he decided to have a medical attention. Also, according to the publication made by Elebyary O, Barbour A., *et al.* [4] in the case of oral squamous cell carcinoma the local inflammatory response associated with periodontitis is capable of triggering altered cellular events that can promote cancer cell invasion and proliferation of existing primary oral carcinomas as well as supporting the seeding of metastatic tumor cells into the gingival tissue giving rise to secondary tumors.

Considering only lip squamous cell carcinoma, the survival rate increases; however, Weber Mello F, Melo G, Modolo F., *et al.* [5] described that the treatment can have several consequences, especially whenever surgery is necessary, since it can cause deformation and, consequently, affect the patient's quality of life, having relation with our case because the oncological resection needs a reconstructive alternative in order to prevent functional and aesthetical sequelae. Following the words of Guang Liu X, Wang CJ., *et al.* [6] no surgical technique provides the necessary characteristics for an ideal lip reconstruction for full thickness defects; a fact that doesn't have relation with the published by Dadhich A, Shah S., *et al.* [7] when they said that the Bernard Flap in one of the two ideal options for the lip reconstruction after an oncological full thickness resection of the lower lip. Bernard described to full thickness Burow's triangles through the nasolabial fold in order to make easier medial malar advancement [7], having relation with our case with an optimal recovery without functional and aesthetical sequelaes and avoiding the mutilate effect of the oncological resection well described by Dhanuthai K, Rojanawatsirivej S., *et al.* [1].

Many techniques for lip reconstruction have been described. Choice of reconstruction must take into account the defect size, anatomical sub-site, patient co-morbidities, and the treating surgeon's experience [8]. Full-thickness defects can be described as less than one-third, between one-third and two-thirds, near total, and total [8].

According to the NCCN Guidelines Version 1.2024 Squamous Cell Skin Cancer, regional lymph node exam as indicated for suspicion of nodal disease [9], in our patient according to the size of the lesion, extension studies were requested before the surgical planning. Meanwhile, the Society for Immunotherapy of Cancer (SITC) established the Cancer Immunotherapy Guideline - Head and Neck Cancer subcommittee to provide evidence-based recommendations on how best to incorporate immunotherapies into practice for the treatment of patients with HNSCC (Head and Neck squamous cell carcinoma) [10].

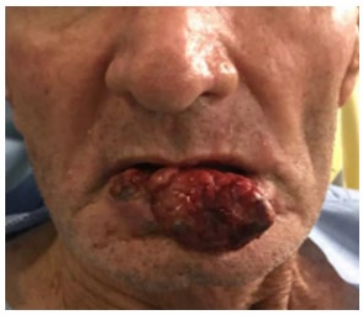

**Figure 1:** A full thickness lower lip SCC.

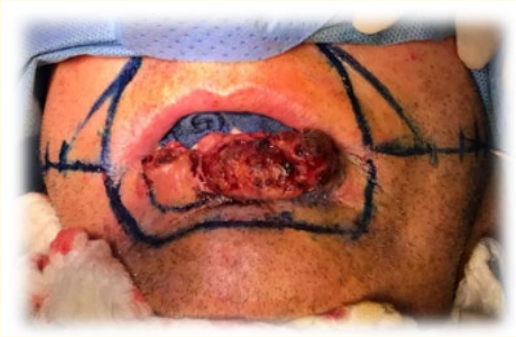

**Figure 2:** Preoperative marking of the flap limits and Burow´s triangle.

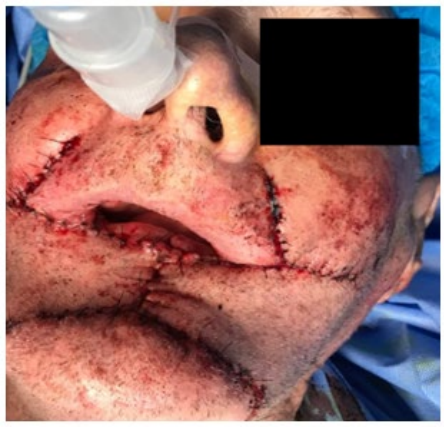

**Figure 3:** After the Bernard flap reconstruction.

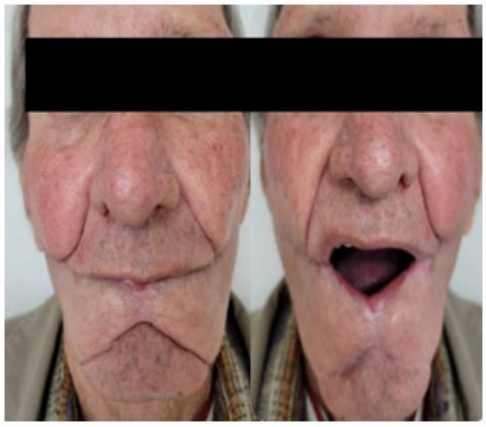

**Figure 4:** Acceptable functional and aesthetical results, with an excellent oral competence.

## Conclusion

Even with all the advancements and the variety of reconstructive options, the Bernard Flap or modified Bernard flap are both still an excellent reconstructive alternative to the lower lip defects after a huge oncological resection.

## Acknowledgments

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## Conflicts of Interest

The author declare 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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