

## Case Report

# Scapular Osteocutaneous Free Flap for Reconstructing Oncological Defects in the Oral Cavity: A Case Report

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Oral squamous cell carcinoma is a highly aggressive and frequent cancer. In this line, there are several risk factors associated with squamous cell carcinoma such as tobacco, alcohol, age, human papillomavirus (HPV), genetic predisposition and chronic trauma. Moreover, the incidence of this disease is expected to rise. Lesion resection with tumor-free margins is the major goal in oncological head and neck surgery. On these grounds, it is reasonable to carry out wide tumorectomies in these malignant neoplasms. Naturally, all of this has its impact on the functional and esthetic outcome of patients affected by this type of cancer. Thus, the main aim of the present report is to show the possible applications of the scapular osteocutaneous free flap for intraoral oncological reconstruction.

**Keywords:** Oral squamous cell carcinoma, Scapular osteocutaneous free flap, Oncological reconstruction, Tumor-free margins.

## INTRODUCTION

Oral squamous cell carcinoma is a highly aggressive malignancy whose incidence is expected to increase. It is considered as the twelfth of all malignant neoplasms in the world (1). Squamous epithelial cells surrounding the oral mucosa are the source of this neoplasia. In this line, there are several risk factors associated with squamous cell carcinoma such as tobacco, alcohol, age, HPV, genetic predisposition and chronic trauma (2) (3) (4). The areas of the oral cavity most frequently involved are lips, tongue, floor of the mouth, gingiva and buccal mucosa (5). Lamentably, despite the increasing frequency and severity of the pathology, the diagnosis is often delayed. It's not uncommon to detect large cancers in these anatomical spaces.

Accordingly, is important to highlight that patient survival is enhanced when tumor is completely removed. Lesion resection with tumor-free margins is the objective in oral cancer. Negative surgical margins might avoid the necessity of applying other treatments as radiotherapy or chemotherapy (6) (7). On these grounds, it is reasonable to carry out wide tumorectomies in these malignant neoplasms. However, this could also generate relevant functional and esthetic sequelae. In the light of the above, the main aim of the present report is to show the possible applications of the scapular osteocutaneous free flap for intraoral oncological reconstruction.

## CASE REPORTS

We report the case of a 53 years old man who underwent tumorectomy and cervical lymph node dissection three years ago. In fact, the patient was diagnosed with oral squamous cell carcinoma. Moreover, patient also received cervical radiotherapy. The reason for this choice was the fact that histological examination revealed the presence of lymphadenopathy with risk parameters.

However, during the follow-up patient, experienced a massive local-regional recidive. CT images evidenced a tumor mass which stretched from the left buccal mucosa to the right floor of the mouth. In addition, jaw bone was also infiltrated by cancer. Considering these developments, patient was referred to our service in order to evaluate the applicability of reconstructive techniques. After a careful analysis of the clinical situation, we decide to perform a scapular osteocutaneous free flap for reconstructing the defect derived by tumorectomy.

## DISCUSSION

Broadly speaking, the goals of oncologic surgery in the cervical region are:

1. lesion resection with tumor-free margins;
2. bone reconstruction;
3. cutaneous and mucous reconstruction;
4. functional and esthetical results as acceptable;



**Fig. 1:** Clinical image of oral squamous cell carcinoma that affected patient (T4N2bMo).



**Fig. 2:** Intraoral view of the cancer.



**Fig. 3:** Final result (3 weeks after surgery).

In this light, scapular osteocutaneous free flap represent a major weapon in the field of microsurgical reconstruction of head and neck (8). It is particularly recommended in case of mixed cutaneous-mucosal-bony defect. The flap is based on the arterial axis consisting of the axillary artery, subscapular artery, scapular circumflex artery, and scapular-parascapular arteries (9). The scapular flap offers several advantages such as:

1. It ensures abundant soft tissues and bone length adequate for repairing defects caused by oncologic surgery.
2. The scapular skin is hairless and may be grafted without problems in slender or older people.

3. The excellent three-dimensional plasticity of this flap guarantees a good aesthetic and functional results (10) (11) (12) (13).

The main aim of the present reports is to show the great result obtained with the use of a scapular osteocutaneous free flap for reconstructing a large defect in the cervical region. Moreover, we would like to focus attention on the importance of early diagnosis in these cases. Prompt diagnosis reduces patient morbidity and mortality. Unfortunately, the diagnosis of this type of cancer is often delayed. In essence, we would like to point out that a cautious oral exploration is mandatory in a patient who regret oral discomforts. This is especially true in patient with oral squamous cell carcinoma risk factors.

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