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Case report

Prosthetic rehabilitation of a patient after a partial mandibulectomy

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HIGHLIGHTS

- Oral Surgery oncology.
- This study investigated the esthetic of the prosthesis rehabilitation.
- Patient satisfaction after rehabilitation.

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ABSTRACT

Introduction: The treatment of orofacial tumors may cause facial deformities by losses of structures that affect basic functions, i.e. feeding, speech, and the reduction of patient self-steam.
Presentation of case: A white male patient was diagnosed with epidermoid cancer on the mandibular alveolar ridge with infiltration staging IV A. The patient was submitted to a mandibulectomy associated with a complete extraction of mandibular teeth. For rehabilitation, a conventional denture for the mandibular arch and a removable partial denture for the maxillary arch were fabricated. A correct occlusal adjustment and a satisfactory amount of alveolar bone was favorable for conventional dentures of the prostheses bases improve their retention and stability. After one year of follow-up, the patient was adapted to the prostheses, satisfied with their retention, and reported an improvement on his feeding.
Discussion: The prosthetic rehabilitation of patients after a partial mandibulectomy is essential for their self-steam. Conventional dentures may have their retention and stability improved if they are well fabricated, recorded and have a balanced occlusion.
Conclusion: A correct occlusal adjustment and an adequate retention of the prostheses bases may improve their retention and stability. Patients without xerostomy and with a satisfactory amount of alveolar bone may have a favorable prognosis for conventional dentures.

1. Introduction

The incidence of orofacial tumors is constantly increasing [1] and their treatment may be the surgical resections performed to eliminate neoplasias and prevent recurrences [2,3]. However, this treatment may cause facial deformities with the removal of muscles, soft tissues, articular discs and mandibular condyles [4]. These losses of structures affect basic functions, i.e. feeding, speech, and the reduction of patient self-steam [5].

Osseointegrated dental implants have been proposed as an alternative to rehabilitate patients after partial mandibulectomy because they may improve prostheses retention, stability and oral function [4]. However, the majority of patients submitted to surgical resections as a consequence of orofacial tumors were treated with radiotherapy to diminish the probability of metastasis [2], and this treatment may be contra-indicated for dental implants.

Patients who underwent radiotherapy treatment are associated to low survival rates of dental implants [1]. So, the prosthetic treatment with conventional dentures is proposed as an alternative

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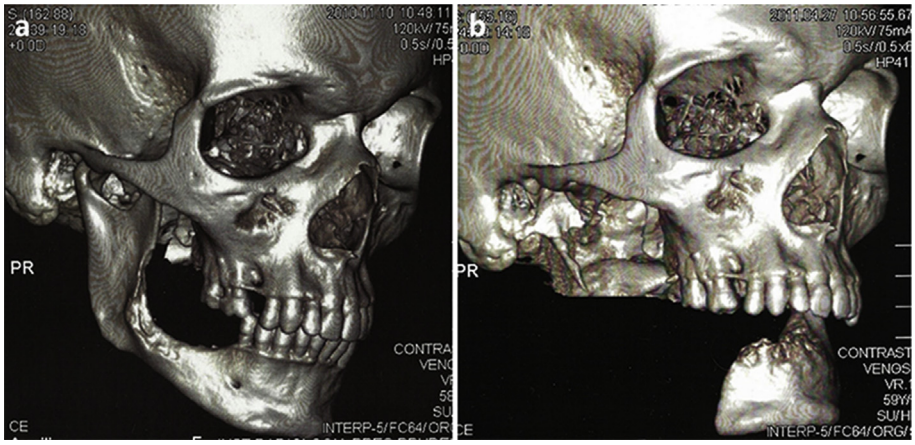

Fig. 1. (a) Pre-operative CT scan; (b) CT scan after the surgical resection.

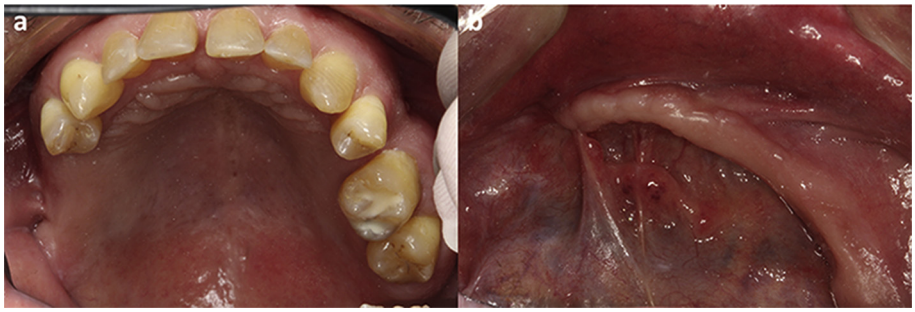

Fig. 2. (a) Maxillary arch view after teeth extraction; (b) Mandibular arch view after partial mandibulectomy.

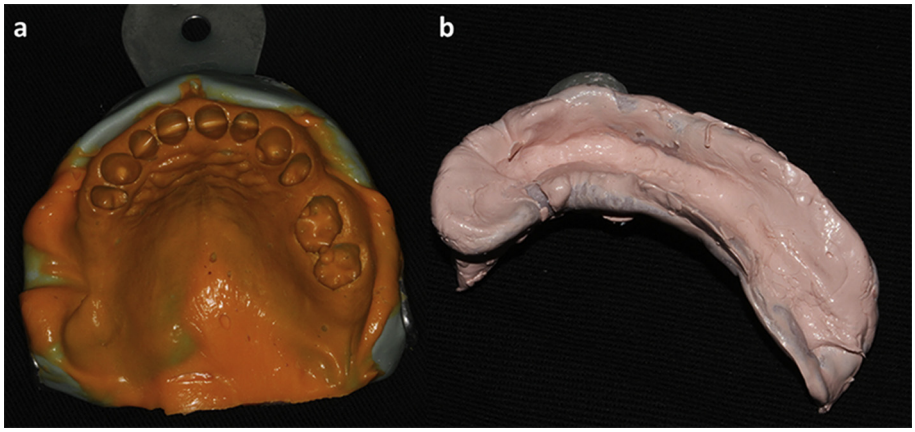

Fig. 3. (a) Definitive impressions of the maxillary and (b) mandibular arches.

to irradiated edentulous patients [6].

Thus, the aim of this study is to report a prosthetic rehabilitation of a patient after partial mandibulectomy on the right side with a conventional denture.

2. Presentation of case

A white male patient was admitted to the dental clinic (Araçatuba Dental School – UNESP, Araçatuba, Sao Paulo, Brazil) complaining about pain and dental mobility on the right side of the mandibular posterior region. After anamnesis, a computed tomography (CT) (Fig. 1) was performed, and the patient was submitted to a biopsy. The final diagnosis was defined as epidermoid cancer on the mandibular alveolar ridge with infiltration staging IV A. This epidermoid carcinoma is uncommon malignant neoplasia in the oral cavity [7,8]. The first choice for treatment is surgery combined with radiotherapy [8]. Oral care is important when radiotherapy is performed due mucosistis, xerostomia and osteonecrosis [8].

The patient was submitted to a glosso-pelvi-mandibulectomy associated with a complete extraction of mandibular teeth, a partial extraction of maxillary teeth (Figs. 1 and 2), and unilateral cervical lymphadenectomy. After one month of surgical treatment, the radiotherapy was performed with a 5040 Gy dosage for 2