

Pectoralis Major Myocutaneous Flap Associated with Tongue Flap on Cheek Reconstruction – An Alternative to the Microsurgery Flaps – Case Report

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ABSTRACT

Patients with face and oral cavity deformities due to tumor excisions may benefit from the association of pectoralis major myocutaneous flap with other flaps, including microsurgical free flaps.

We report a case of squamous cell carcinoma on the right jugal region; the carcinoma ulcerated on the cheek skin, lips and lip junction. After the surgery the area was reconstructed using a pectoralis major myocutaneous flap associated with a tongue flap.

There were no complications and a postoperative radiotherapy was performed between December 14, 1997 and January 09, 1998. On March 20, 1998 the patient was asymptomatic and a follow-up, as an out patient, was suggested.

The purpose of this report is to present an alternative option, using a pectoralis major myocutaneous flap associated with a tongue flap for total thickness cheek deformity reconstruction.

The head and neck surgery and the plastic surgery reconstructive techniques developed concomitantly. The combination of the flaps mentioned herein is part of this evolution. It is a simple technique with few complications and good functional and esthetic results.

INTRODUCTION

For the last 35 years, head and neck surgery reconstructive techniques have improved substantially. Among the wide range of contributions, the pectoralis major myocutaneous flap^(1,2) (PMMF) can be considered a very important one. It is technically easy to perform, presents low morbidity and mortality, and is very versatile. The functional and esthetic final results are highly satisfactory.

PMMF's versatility includes the possibility of combination with other flaps, including free flaps^(3,4).

It should be noted that microsurgical free flaps and microsurgery sutures brought about new options and good results to wide reconstruction in head and neck surgery⁽⁵⁾. However, the microsurgical free flaps techniques present a higher morbidity compared to

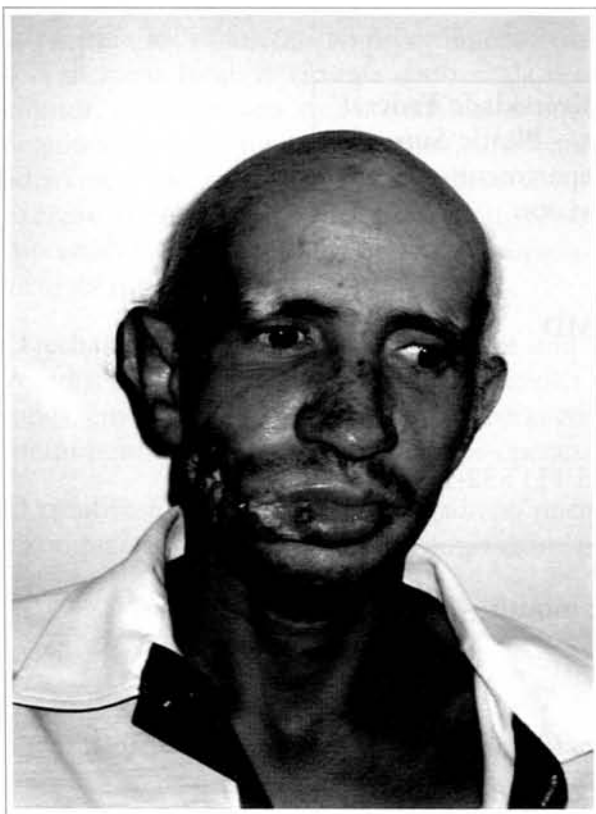


Fig. 1 - Ulcerated tumor on the cheek skin, upper lip, lower lip and right labial junction.

Fig. 1 - Tumor ulcerado na pele da bochecha, no lábio superior, no lábio inferior e na comissura labial do lado direito.



Fig. 2 - Ulcerated tumor on the mucosa - jugal region.

Fig. 2 - Tumor ulcerado na mucosa da região jugal.

PMMF. They also require a specialized plastic surgeon, a well-equipped hospital capable of providing appropriate support, and other specialized professionals.

Total thickness cheek resections comprehend the skin, the soft tissues, and the oral mucosa, and create a great deformity. Thus, several reconstruction options must be considered. An alternative option, using a PMMF^(1, 2) associated with a tongue flap, is presented here^(6, 7).

CASE REPORT

A 35 years old patient, male, Caucasian, Brazilian, from São Paulo, was assisted by the Neck and Head Surgery Division. He referred to have a protuberance at the right jugal region for approximately 4 months. He smoked less than 20 cigarettes a day for many years, but denied alcoholism.

The local examination revealed a right jugal ulcer infiltrating the oral mucosa, of 6 x 5 cm in its largest diameters, compromising the soft tissues and the facial skin. A biopsy of the ulcerated lesion on the cheek

skin was performed, and a squamous cell carcinoma diagnosis was confirmed. The patient presented a high cervical lymph node on the right side with 0.8 cm diameter, fibroelastic, mobile, not adhering to deep layers. There was also a one-cm-diameter submandibular lymph node on the left, fibroelastic, mobile, and non adherent. The International Union Against Cancer (UICC) TNM classification was: T4N2bM0, clinical stage IV (Figs. 1 and 2).

The surgery was performed on April 29, 1997. It consisted of a large excision that removed the total cheek thickness on the right, the lip junction, part of the upper and lower lips, and the mouth floor. In addition, a superficial parotidectomy was performed, preserving the facial nerve temporal branch; an extended cervical lymphadenectomy on the right, preserving the spinal nerve, and a left supraomohyoid extended lymph node resection were also performed.

The reconstructive technique was a combination of a right PMMF and a right hemitongue flap. The PMMF was made according to the standardized technique^(4, 5).

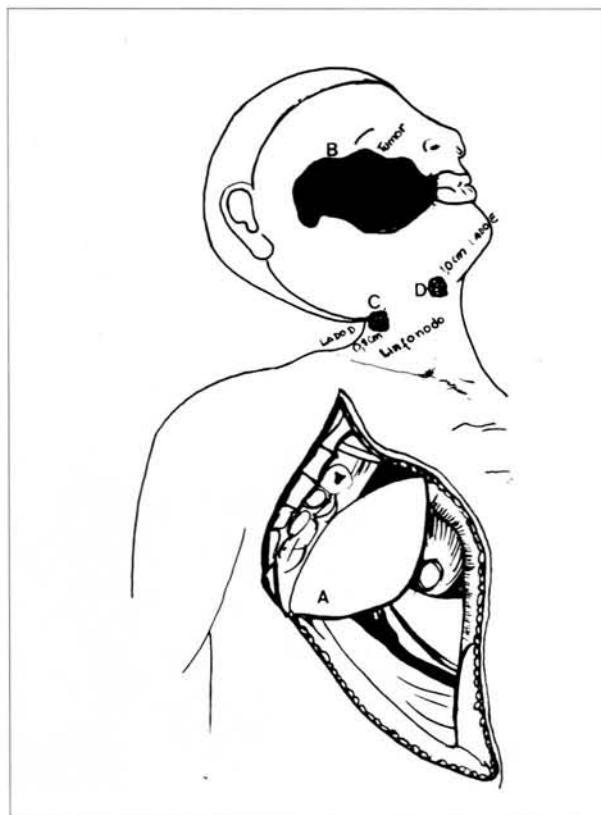


Fig. 3 – A: Larger Pectoral Musculocutaneous flap. B: Tumor. C: Ipsilateral lymph node. D: Controlateral lymph node.

Fig. 3 – A: Retalho Musculocutâneo de Peitoral Maior. B: Tumor. C: Linfônodo ipsilateral. D: Linfônodo controlateral.

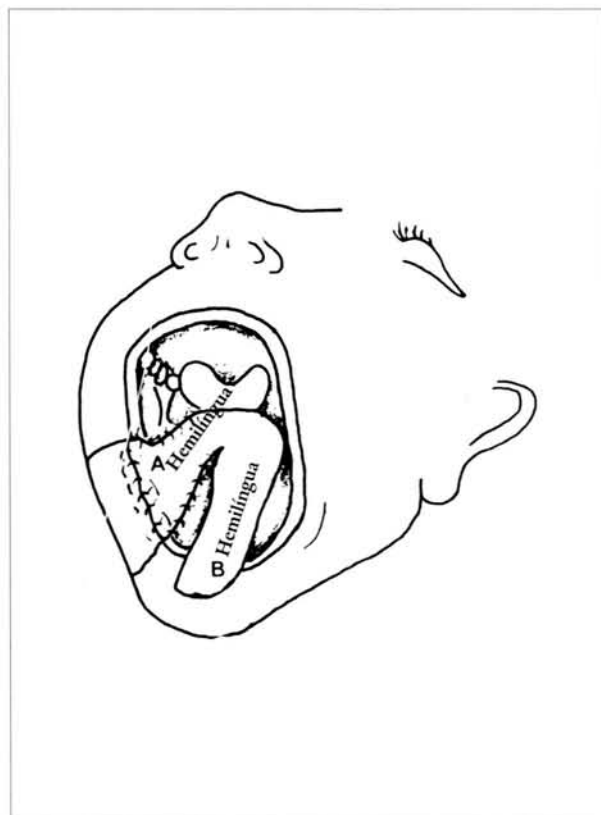


Fig. 4 – A: Ipsilateral hemitongue. B: Controlateral hemitongue.

Fig. 4 – A: Hemilíngua ipsilateral. B: Hemilíngua controlateral.

The muscle and mucous membrane for the inner cheek was made from a full thickness ipsilateral hemitongue flap with posterior pedicle. A longitudinal incision was performed on the hemitongue midline and the tongue was opened "as a book page". The flap was laterally rotated and sutured to form the internal aspect of the cheek (Figs. 3 and 4). The homolateral hypoglossus nerve was identified at the common carotid artery level, and was cut and tied to avoid flap movement and suture tensioning. The left hemitongue was sutured marginally, creating "a new tongue". The PMMF was transferred and sutured over the tongue flap to reconstruct the facial outline. A nasogastric feeding tube was placed for nutritional support, and a tracheostomy was performed to assure breathing. The drainage was carried out by continuous suction of the neck and thorax.

The patient recovered well from the surgery and had no complications. He was discharged on May 10, 1997. The nasogastric feeding tube and the tracheal cannula were removed on May 23, 1997. When the patient was referred to the Radiotherapy Service, he presented good phonation and swallowing (Figs. 5 and 6). The postoperative radiotherapy was made between December 14, 1997 and January 09, 1998. He received 180 cGy/day total dose 5040 cGy, on the lateral region of the neck and face and the supraclavicular fossa. There were no complications related to the radiotherapy. On March 20, 1998 he was asymptomatic, and a monthly follow-up was recommended throughout 1998.

DISCUSSION



Fig. 5 – Twenty-one days after the surgery. Oral mucosa reconstructed by the tongue flap.

Fig. 5 – Pós-operatório de 21 dias. Mucosa oral reconstruída pelo retalho de língua.

The head and neck surgery and reconstructive techniques developed concomitantly^(1, 8) The first usually results in significant deformities and the latter has allowed the head and neck surgeons to make progressively larger surgeries with low mortality and morbidity, and good functional and esthetic results.

CONCLUSION

The combination of flaps mentioned herein is a simple technique, and represents an alternative and a contribution to the current techniques supported by the literature^(1, 8).

REFERENCES

1. ARIYAN S. The pectoralis major myocutaneous flap for reconstruction in the head and neck. *Plast. Reconstr. Surg.* 1979; 63: 73-81.
2. MEHTA S, SARKAR S, KAVARANA N, BHATHENA H, MEHTA A. Complications of the Pectoralis Major Myocutaneous Flap in the Oral Cavity: A Prospective Evaluation of 220 Cases. *Plastic. Reconstr. Surg.* 1996; 98(1): 31-37.
3. WALLIS A, DONALD P. Lateral Face Reconstruction with the Medial-Based Cervicopectoral Flap. *Arch. Otolaryngol. Head Neck Surg.* 1988; 114 (7): 729-733.
4. JOHNSON MA, LANGDON JD. Is skin neces-



Fig. 6 – Ninety days after the surgery. Esthetic result of the pectoralis major myocutaneous flap on the cheek.

Fig. 6 – Pós-operatório de 90 dias. Resultado estético do Retalho Musculocutâneo de Peitoral Maior na reconstrução da bochecha.

sary for intraoral reconstruction with myocutaneous flaps? *Br. J. Oral Maxillofac. Surg.* 1990; 28 (5): 299-301.

5. JACOBSON Mc, FRASSEN E, FLIS DM, BIRT BD, GILBERT BW. Free Forearm Flap in Oral Reconstruction. Functional Outcome. *Arch. Otolaryngol. Head and Neck Surg.* 1995; 121 (9): 959-964.
6. DIAZ FJ, DEAN A, ALAMILLOS FJ, NAVAL L, FERNÁNDEZ J, MONJE E. Tongue Flaps for Reconstruction of the Oral Cavity. *Head Neck.* 1994; 16: 550-554.

7. ROBBEN C, SCHOENAERS J, BOSSUYT M. The use of tongue flaps for oral tissue repair. *Acta Stomatol. Belg.* 1995; 92 (4): 171-184.

8. IOANNIDES C, FOSSION E. Nasolabial flap for the reconstruction of defects of the floor of the mouth. *Int. J. Oral Maxillofac. Surg.* 1991; 20(1): 40-43.