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Submental flap in reconstruction of orofacial defects☆

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ABSTRACT

Objective: The microsurgical techniques with free flaps are the "Gold Standard" in the immediate reconstruction of post-cancer defects of the head and neck. However, procedures are complex, requiring a high degree of specialisation, and not exempt from complications and morbidity. The submental flap is an alternative reconstruction technique in the maxillofacial field in cases where the microsurgical reconstruction is not indicated. The objective of this work is to show the benefits of the use of the submental flap in the maxillofacial reconstruction.

Material and method: : The experience of the Department of Oral and Maxillofacial Surgery of the H. U. Ramón y Cajal of Madrid from 2009 to 2013 is described, using the records of a total of 20 reconstructions made with submental pedicled flap in patients with intra- and extra-oral cancers.

Results: The results were satisfactory in the 19 patients who underwent surgery, according to the criteria for coverage of the defect, aesthetics and functionality. There were 12 elective functional neck dissections, with histological findings, N0. In no case was transfer of cervical tumor disease to the recipient bed detected. There was only local recurrence of the disease in 1 patient.

Conclusions: The submental flap constitutes a valid alternative for the reconstruction of orofacial defects, especially in elderly patients or patients that, due to deteriorated general condition require less aggressive treatments and reduced surgical times. Requires rule out the presence of cervical lymph node metastatic disease needs to be ruled out prior to surgery. Its use is controversial for the repair of defects after resection of tumours with high levels of tumour-infiltrating lymphocytes.

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El colgajo submental en reconstrucción de defectos orofaciales

Palabras clave:
Defectos orofaciales
Colgajo submental
Reconstrucción oncológica

RESUMEN

Objetivo: Las técnicas microquirúrgicas con colgajos libres constituyen el «Gold Standard» en la reconstrucción inmediata de defectos postoncológicos de cabeza y cuello. Sin embargo, son procedimientos complejos, que requieren un alto grado de especialización, no exentosde complicaciones y morbilidad. El colgajo submental constituye una alternativa recons-tructiva en el territorio maxilofacial, en casos en los que la reconstrucción microquirúrgicano está indicada. El objetivo del trabajo es mostrar los beneficios del empleo del colgajosubmental en la reconstrucción maxilofacial.

Material y método: Presentamos la experiencia recogida en el Servicio de Cirugía Oral y Maxi-lofacial del H.U. Ramón y Cajal de Madrid desde 2009 hasta 2013, registrando un total de 20 reconstrucciones realizadas con colgajo submental pediculado en pacientes con procesosneoplásicos a nivel intra y extraoral.

Resultados: Los resultados fueron satisfactorios en 19 pacientes intervenidos, atendiendo alos criterios de cobertura del defecto, estética y funcionalidad. Se realizaron 12 disecciónescervicales funcionales electivas, con resultado histológico N0. En ningún caso se detectótransferencia de enfermedad tumoral cervical al lecho receptor. Solo se ha evidenciadorecurrencia local de la enfermedad en un paciente.

Conclusiones: El colgajo submental constituye una alternativa válida para la reconstrucciónde defectos orofaciales, especialmente en aquellos pacientes que por edad o estado generaldeteriorado requieren tratamientos poco agresivos y con tiempos quirúrgicos reducidos. Requiere descartar la presencia de enfermedad metastásica ganglionar cervical previamentea su realización. Su empleo es controvertido para la reparación de defectos tras resecciónde tumores con alta linfofilia.

Introduction

The reconstruction of orofacial defects after ablative surgery has a considerable impact on the quality of life of these patients. The main objective of the reconstruction is to restore both the morphology and the function of lost tissue. Therefore, the first option is microsurgical techniques with free flaps. However, these are complex procedures requiring a high degree of specialisation, not exempt from perioperative vascular complications and morbidity in the donor site of the cut flap, which present certain limitations in patients of advanced age or with high-risk systemic diseases, particularly when the reconstruction is limited to small to medium-sized tissue defects.

In these cases, the submental flap is an ideal reconstructive alternative in the maxillofacial area for lesions affecting the lower half of the face or the intraoral area.[1] This flap was initially described by Martin et al[2] in 1993, although it was not until 1996 that Sterne and Hall[3] applied it to the reconstruction of an oral defect after resection of an epidermoid carcinoma. It is characterised by a large constant vascular pedicle located in the submental artery branch of the facial artery, which releases from 1 to 4 cutaneous perforators at the level of the anterior digastrics muscle belly. In addition, it provides excellent colour and texture, great versatility and little morbidity in the donor site. Its use for malignant lesions is still controversial due to the risk of transferring the cervical metastatic disease to the recipient site of the flap.[4,5]

This article describes the surgical technique used to raise the flap, the postoperative complications and the final results obtained.

Materials and methods

This is a retrospective study about the data collected by the Oral and Maxillofacial Surgery Department of the H.U. Ramón y Cajal Hospital of Madrid from 2009 to 2013, amounting to 20 reconstruction procedures of small to medium-sized defects conducted with a pedicled submental flap in patients who had undergone neoplastic processes at an intraoral and extraoral level: 9 cutaneous lesions (3 at a preauricular level, one in the nasogenian fold and one in the malar region, 3 in the parotid tail area and one in the retroauricular area), 4 lesions in the intraoral soft tissue (one in the lingual area and 3 in the buccal mucosa area), one in the mandibular ridge, and 6 at the level of the upper maxilla. Among the lesions described in the histological analysis, we found one mucosal melanoma, 5 cutaneous epidermoid carcinomas, 9 mucosal epidermoid carcinomas, 2 dermatofibrosarcoma protuberans, one cutaneous melanoma, one cystic adenoid carcinoma and one basocellular epithelioma (Table 1).

Flap design and surgical technique

The patient is laid on the supine decubitus position, with the head extended and slightly inclined towards the opposite