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Free tissue flaps in head and neck reconstruction: clinical application and analysis of 93 patients of a single institution[☆]

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KEYWORDS

Free flaps;
Head and neck;
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Abstract

Introduction: Reconstruction with a free flap is routine in head and neck surgery because of better functional outcomes, improved esthetics, and generally higher success rates.

Objective: To evaluate the clinical outcomes in patients undergoing different microvascular free flap reconstructions.

Methods: This was a retrospective study of 93 patients undergoing reconstructions with free flaps from 2007 to 2015. Four types of free flap were performed: Anterolateral Thigh (76.3%), Radial Forearm (16.1%), Fibula (4.3%) and Jejunum (3.3%). Patients' demographic data were collected, and the outcomes measured included flap survival and complications. Postoperative functional and oncological outcome were also analyzed.

Results: The patients included 73 men and 20 women, with a mean age of 56.1 years. The most common tumor location was the tongue. Squamous cell carcinoma represented the vast majority of the diagnosed tumors (89.2%). The most common recipient vessels were the superior thyroid artery (77.4%) and the internal jugular vein (91.4%). Nine patients required emergency surgical re-exploration and the overall flap success rate was 90.3%. Venous thrombosis was the most common cause for re-exploration. Other complications included wound infection (5.4%), wound dehiscence (1.1%), partial flap necrosis (9.7%), fistula formation (10.8%), and 1 bleeding (1.1%). The majority of patients had satisfactory cosmetic and functional results of both donor site and recipient site after 46.7 months of mean follow-up.

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PALAVRAS-CHAVE

Retalhos livres;
Cabeça e pescoço;
Resultados;
Reconstrução

Conclusion: Microsurgical free flap is shown to be a valuable and reliable method in head and neck surgery. It can be used safely and effectively with minimal morbidity in selected patients. The reconstruction can be performed by appropriately skilled surgeons with acceptable outcomes. Success rate appears to increase as clinical experience is gained.

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Retalhos livres de tecido para reconstrução em cirurgias de cabeça e pescoço: aplicação clínica e análise de 93 pacientes de uma única instituição

Resumo

Introdução: Reconstrução com retalhos livres é um procedimento de rotina nas cirurgias de cabeça e pescoço devido aos melhores resultados funcionais e estéticos, e taxas de sucesso geralmente maiores.

Objetivo: Avaliar os desfechos clínicos de pacientes submetidos a diferentes reconstruções microvasculares com retalhos livres.

Método: Esse é um estudo retrospectivo de 93 pacientes submetidos à reconstruções com retalhos livres, de 2007 a 2015. Foram utilizados quatro tipos de retalho livre: coxa anterolateral (76,3%), antebraço radial (16,1%), fíbula (4,3%) e jejuno (3,3%). Os dados demográficos dos pacientes foram coletados e os parâmetros avaliados incluíram sobrevida e complicações. Os resultados funcionais e oncológicos pós-operatórios também foram analisados.

Resultados: Os pacientes incluíram 73 homens e 20 mulheres, com idade média de 56,1 anos. O local mais comum para o tumor foi a língua. O carcinoma de células escamosas representou a maioria dos tumores diagnosticados (89,2%). As artérias receptoras mais comuns foram a artéria tireóidea superior (77,4%) e a veia jugular interna (91,4%). Nove pacientes necessitaram de re-exploração cirúrgica de emergência e a taxa de sucesso global do retalho foi de 90,3%. A trombose venosa foi a causa mais comum da re-exploração. Outras complicações incluíram infecção da ferida cirúrgica (5,4%), deiscência da ferida (1,1%), necrose parcial do retalho (9,7%), formação de fístula (10,8%) e 1 sangramento (1,1%). A maioria dos pacientes apresentou resultados estéticos e funcionais satisfatórios, tanto no local doador quanto no receptor, após 46,7 meses de seguimento médio.

Conclusão: O retalho livre microcirúrgico mostrou ser um método valioso e confiável na cirurgia de cabeça e pescoço. Pode ser utilizado de forma segura e eficaz, com morbidade mínima em pacientes selecionados. A reconstrução pode ser realizada por cirurgiões adequadamente qualificados com resultados aceitáveis. A taxa de sucesso parece aumentar à medida que a experiência clínica é adquirida.

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Introduction

Head and neck cancer is the sixth common cause of cancer with an estimated worldwide incidence of over 600,000 new cases annually.¹ Surgery for tumors of head and neck can cause significant soft tissue, bony and skin defects. This may result in functional impairment such as speech and swallowing deficits. Thus, the reconstruction of extensive defects after resection has always been challenging. In the past, attempts were made to achieve functional restoration of resected head and neck areas with acceptable cosmesis using local and locoregional flaps. The introduction of the Pectoralis Major Myocutaneous (PMMC) flap was well established in 1979 as one of the most important reconstructive methods due to its simple technical aspects and

versatility.² However, the major disadvantages were that it was too bulky and the nipple position may become distorted, both of which can cause cosmetic problems. The free flap technique represented a revolution in reconstructive surgery as it enabled the harvesting of a large amount of revascularized tissue, and it could be tailored to the defect and allowed for more complex reconstructive procedures, while simultaneously permitting more extensive head and neck resections.³⁻⁵ Today, microvascular surgery is an essential part of the treatment of head and neck defects.

Different free tissue flaps had been reported in the reconstruction of tumor defects of head and neck region, such as Latissimus Dorsi (LD) flap, Radial Forearm (RF) flap, scapula flap, Anterolateral Thigh (ALT) flap, Jejunum flap, and Rectus Abdominis muscle (RA) flap.⁶⁻⁹ For example, the RF flap

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