PRACTICAL DERMATOLOGY

Reconstruction Techniques of Choice for the Facial Cosmetic Units

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Received 3 December 2016; accepted 24 February 2017

KEYWORDS
Flaps;  
Cosmetic unit;  
Practical guideline;  
Reconstructive surgery

Abstract

Background and objectives: A broad range of skin flaps can be used to repair facial surgical defects after the excision of a tumor. The aim of our study was to develop a practical guideline covering the most useful skin grafts for each of the distinct facial cosmetic units.

Material and methods: This was a multicenter study in which 10 dermatologists with extensive experience in reconstructive surgery chose their preferred technique for each cosmetic unit. The choice of flaps was based on personal experience, taking into account factors such as suitability of the reconstruction technique for the specific defect, the final cosmetic result, surgical difficulty, and risk of complications. Each dermatologist proposed 2 flaps in order of preference for each cosmetic subunit. A score of 10 was given to the first flap and a score of 5 to the second.

Results: The total score obtained for each of the options proposed by the participating dermatologists was used to draw up a list of the 3 best grafts for each site. There was notable unanimity of criteria among most of the dermatologists for reconstructive techniques such as the glabellar flap for defects of the medial canthus of the eye, the bilateral advancement flap or H flap for the forehead, the rotary door flap for the auricle of the ear, the Mustarde flap for the infraorbital cheek, the O-Z rotation flap for the scalp, the Tenzel flap for the lower eyelid, and the island flap for the upper lip.

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PALABRAS CLAVE
Colgajos;
Unidad estética;
Guía práctica;
Cirugía reconstructiva

Técnicas reconstructivas de elección por unidades estéticas faciales

Resumen
Introducción y objetivos: Existe una enorme variedad de colgajos cutáneos empleados para
la reparación de defectos quirúrgicos faciales tras la extirpación de tumores. El objetivo del
estudio fue consensuar una guía práctica de los colgajos más útiles para cada una de las distintas
unidades estéticas faciales.
Material y métodos: Estudio multicéntrico donde 10 dermatólogos de larga experiencia quirúr-
gica reconstructiva eligieron sus técnicas preferidas para cada unidad estética. La elección de
estos colgajos se fundamentó en la experiencia personal de cada dermatólogo basándose en
factores como la idoneidad de la técnica reconstructiva para ese defecto, el resultado estético
final, la facilidad de ejecución y la baja probabilidad de complicaciones, entre otros. Eligieron
2 colgajos por orden de preferencia para cada subunidad estética y se le asignaron 10 puntos
al primer colgajo y 5 al segundo.
Resultados: Con la suma obtenida de todas las opciones aportadas por los dermatólogos encues-
tados se obtuvo una relación de los 3 mejores colgajos para cada localización. Destacar la
unanimidad de criterio por parte de la mayoría de los dermatólogos para técnicas reconstruc-
tivas como el colgajo glaberal para defectos de canto interno del ojo, el colgajo de avance
bilateral en bandera o H para frente, el colgajo en puerta giratoria para concha auricular, el
colgajo pangeniano para mejilla infraorbitaria, el colgajo de rotación O-Z para cuero cabelludo,
el colgajo de Tenzel para párpado inferior y el colgajo en isla para labio superior.
Conclusiones: Los resultados de este estudio son de utilidad para ofrecer una guía práctica para
la elección de las mejores técnicas reconstructivas en cada una de las distintas subunidades
estéticas faciales.

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Introduction

The reconstruction of large surgical defects after the surgical excision of skin tumors usually requires the use of skin flaps. For optimal results, it is important to take into account the concept of facial cosmetic units. These units consist of areas limited by natural folds and borders, such as the nasolabial fold, mental crease, vermillion, brow, and hairline, and have a relatively uniform skin color, texture, and thickness, quantity of subcutaneous fat, mobility, and hair distribution, among other common characteristics. The main cosmetic units are in turn subdivided into various subunits because of the anatomic complexity of some regions, such as the nose and the auricles of the ear (Fig. 1). Certain fundamental norms based on these cosmetic units exist to help us achieve minimally visible scars. A flap must be designed within the limits of the cosmetic unit in which the primary defect is located, and the incisions should preferably be placed along the borders of the units, without crossing them. It should also be noted that best results are obtained with the reconstruction of complete cosmetic units, even if the defect affects less than the whole unit, and that the reconstruction of defects that affect various cosmetic units should be undertaken considering each individual unit, compartmentalizing the repair. However, there is considerable variability in the choice of the best flap for each site.

Although general recommendations exist according to the topographic site,2,3 no consensus guidelines have been published to specify which flap should be used in each cosmetic unit. In order to draw up a practical guideline on the most useful flaps for each one the distinct facial cosmetic units, we undertook a study with the participation of 10 dermatologists with extensive experience in reconstructive surgery, who stated their preferred flaps for each site. We have found no evidence that any study of these characteristics has yet been performed in Spain.

Materials and Methods

Ten dermatologists were selected from different surgical schools across the Iberian Peninsula (9 Spanish and 1 Portuguese). All had between 10 and 30 years’ experience in dermatologic surgery and performed at least 300 complex operations per year. They were sent a questionnaire with a diagram of all the facial cosmetic subunits and they were asked to choose 2 flaps, in order of preference, for each subunit.

The choice of flaps was based on each dermatologist’s personal experience. The suitability of a flap depended on factors such as the objective adaptation of flap design to the site of the defect, final cosmetic result, surgical complexity, and risk of complications.
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