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Case Report

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Synchronic basal skin cancer: resection and double full-thickness dermoepidermal graft in a comorbid patient. complex to simple

Summary

Using skin flaps and grafts is a well-established and reliable method for skin reconstruction in plastic surgery. Although the surgical technique has been used for several decades, the basic principles remain similar. Factors such as skin thickness, color, and texture, the pattern of sun exposure, and adnexal quality should be considered when selecting the appropriate donor site.

Objective: Report a double full-thickness dermoepidermal graft as a reconstructive alternative in a comorbid patient instead of using local flaps.

Clinical case: 80 years old comorbid male patient with a synchronic (scalp and frontal) morfeiform basal skin cancer who was taken under local anesthesia to perform an oncological resection and a double supraclavicular full-thickness dermoepidermal graft. Satisfactory evolution, well integrated double graft, adequate oncological management and acceptable aesthetic result.

Conclusion: Soft tissue reconstruction is performed according to the size and depth of the wound. If the pericranium is viable split-thickness skin grafts can be used for quick and simple reconstruction, but the first choice for reconstruction is usually local scalp tissue. However, in cases like these one, when a comorbid patient can have cardiovascular complications at the operation room, the full-thickness graft under local anesthesia are quickly and less risk reconstructive option. Besides, lateral forehead defects can be managed with a skin graft alone over an intact pericranium. Finally, after 1cm margins resection in a morfeiform basal skin cancer, soft tissue coverage with several options like skin graft are acceptable.

Keywords: forehead reconstruction, scalp reconstruction, graft

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Introduction

Skin restoration after tumor excision, trauma, or burns may be achieved with full or split-thickness skin grafts or local flaps. Using skin flaps and grafts is a well-established and reliable method for skin reconstruction in plastic surgery. Although the surgical technique has been used for several decades, the basic principles remain similar.[1] Free grafts are harvested from distant areas, and their survival depends on the angiogenesis in the recipient site. Grafts are either full thickness containing all skin layers above the subcutaneous tissue, or split-thickness consisting only of the epidermis and a part of the dermis.[1] Full-thickness skin grafts, a classic reconstruction method for facial skin defects, have been used for large defects or in areas where severe distortion is expected upon reconstruction with primary closure or for local flaps. Factors such as skin thickness, color, and texture, the pattern of sun exposure, and adnexal quality should be considered when selecting the appropriate donor site.[2]

Case report

80 years old comorbid male patient, old smoker, with an uncontrolled arrhythmic and hypertensive cardiopathy, chronic obstructive pulmonary disease an hypothyroidism with a synchronic (scalp and frontal) morfeiform basal cell skin cancer who was taken under local anesthesia to perform an oncological resection and at the same surgical time an immediate reconstruction trough a double supraclavicular full-thickness dermoepidermal graft. Satisfactory evolution, well integrated double graft after a follow up of 6 months, adequate oncological management and acceptable aesthetic result.

Discussion

According Khalid F, Ahmed O et al.[3] Soft tissue reconstruction is performed depending on the size and depth of the wound. With viable pericranium, grafts can be used for quick reconstruction, but local flaps are usually the first option,[3] our case was a high comorbid patient, for that reason he needed for a quick reconstructive choice like the full thickness skin graft. In fact, when a comorbid patient may have cardiovascular complications in the operating room, grafts under local anesthesia are a quick and lower-risk plastic and reconstructive option. Following these findings, Krishna D, Khan M et al.[4] described that lateral defects of the frontal region (like those of the described patient) can be treated with a skin graft over an intact pericranium.[4]

The patient had a double morfeiform basal cell skin cancer, so after the oncological resection his reconstructive management had relation with the described by Schmults C, Blitzblau R et al.[5] when they said that after resection of 1 cm margins in a morphea variety of basal cell skin cancer, soft tissue coverage with dermoepidermal grafts is acceptable. Comprehensive knowledge of the scalp anatomy is essential in reconstructive surgical planning. The cranium is covered, from deep to superficial, with periosteum, loose areolar tissue, the aponeurotic galea, subcutaneous tissue, and skin.[6]

As a high comorbid patient, even as a local procedure, was necessary to have a multidisciplinary team performed by many specialties in his preoperative assessment, having relationship with the words of Goertz O, Von der Lohe L et al.[7] cause they described that several factors need to be considered in such procedures and

a sufficient preoperative planning is based on adequate imaging of the malignancy and a multi-disciplinary concept.[7] Supraclavicular area as a well-established donor site for full thickness skin grafts, usually made a donor defect of less than 10 cm can be managed with primary suturing;[8] in the present case the donor site was the right supraclavicular area.

The scalp is an important functional and aesthetic structure that protects the cranial bone. Due to its inelastic characteristics, soft-tissue defects of the scalp make reconstruction surgery difficult [(9),] however in this case, the reconstruction was performed quickly and without complications.

Remembering the cellular and physiological tissue changes with the grafts confections once the skin graft is brought in contact with the wound bed, it begins to undergo a series of phases. During the first 48 hours, the skin graft absorbs plasma wound fluid through a process called plasmatic imbibition. Subsequently, vascular ingrowth occurs between days 4 and 7 through the process of inosculation. These small blood vessels eventually grow into the skin graft through preexisting endothelial channels and contribute to a rich vascular network.[10]

Conclusion

Full thickness skin grafts represent a fast, safe and lower risk reconstructive alternative to local flaps in patients with a cardiovascular history and decompensated pathologies (Figure 1-Figure 6).

Figure 1 Caracas Universitary Hospital. Caracas,Venezuela.

Figure 2 Synchronic morfeiform basal skin cancer. 1 cm margins.

Figure 3 Left frontal and scalp defects after oncological resection.

Figure 4 Supraclavicular full thickness skin graft.

Figure 5 & 6 Adequate aesthetic and functional results.

Ethical approval

This research complies with the World Medical Association Declaration of Helsinki on medical protocols and ethics. As the images of the patient were essential to this paper, the patient's daughter written consent.

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Conflicts of interest

The author declares no conflicts of interest.

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