

Double Reconstructive Surgery for Cutaneous Tumor using Dermal Regeneration Template in a Patient who Required Radiotherapy

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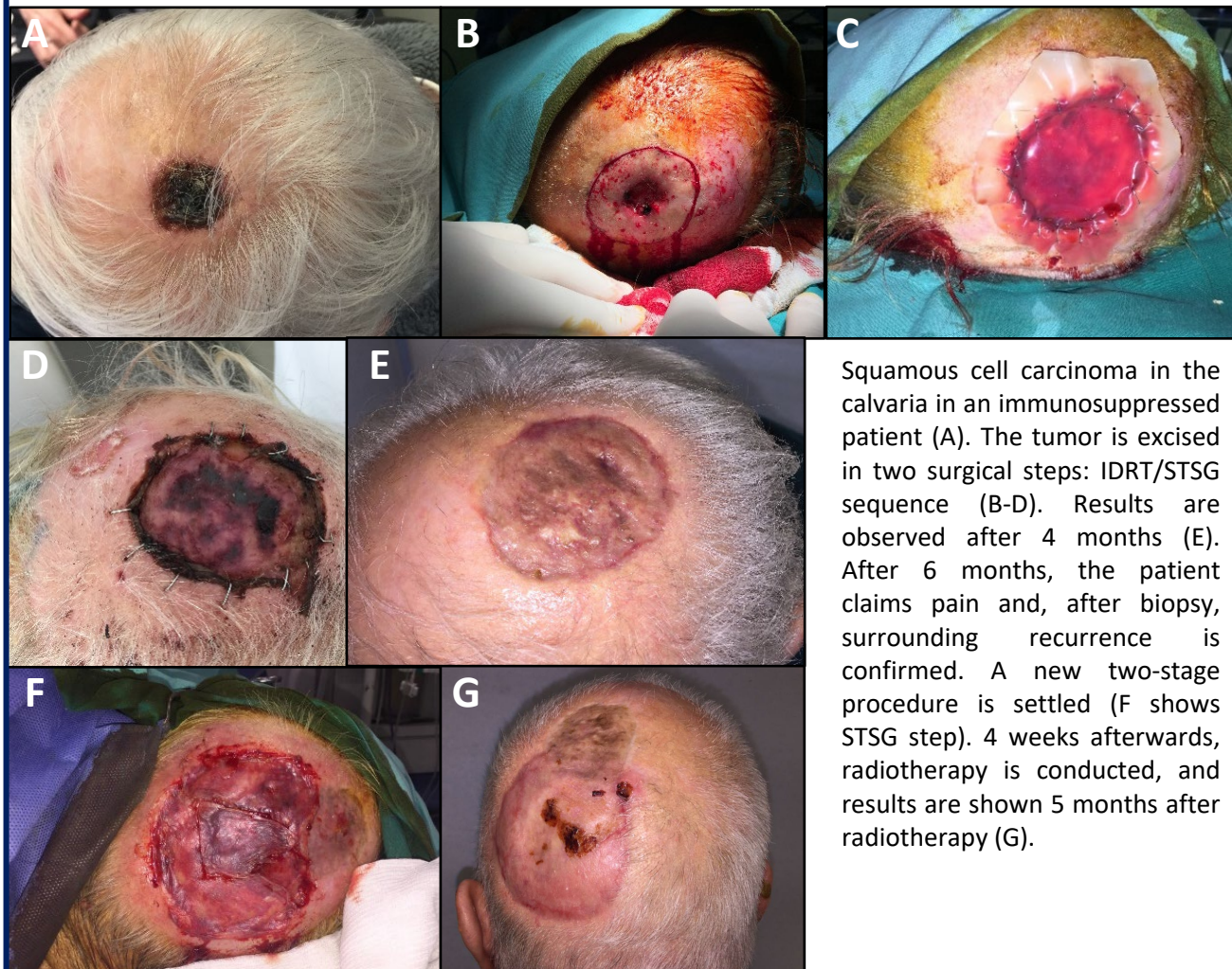
Introduction

Skin defect reconstruction following cancer resection occasionally poses a significant challenge for the surgeon. Dermal Regeneration Template (DRT) is a bilayer xenogenic bioengineered dermal matrix that has been widely used for the management of burn injuries, acute and chronic wounds, and for plastic surgery. However, little is reported on its use in oncologic dermatological defects, particularly for patients who require radiotherapy by oncology indication.

Methods

The patient gave consent for use of his data. We report the case of 1 patient; a 77-year old male who had a squamous cell carcinoma in the calvaria. The patient had hypertension and diabetes. The defect size was 25 cm² after debridement. The patient showed recurrence 6 months after DRT placement, requiring a new second two-stage DRT-autograft procedure before radiation therapy. The patient was followed for a period of 12 months, after the second DRT-autograft procedure.

Patient



Squamous cell carcinoma in the calvaria in an immunosuppressed patient (A). The tumor is excised in two surgical steps: IDRT/STSG sequence (B-D). Results are observed after 4 months (E). After 6 months, the patient claims pain and, after biopsy, surrounding recurrence is confirmed. A new two-stage procedure is settled (F shows STSG step). 4 weeks afterwards, radiotherapy is conducted, and results are shown 5 months after radiotherapy (G).

Results

The patient underwent a first DRT-autograft procedure. This patient showed recurrence after the first two-stage procedure. The pathological finding resulted in perineural invasion in the context of an immunosuppressed patient after liver transplant. This patient required radiotherapy by oncology indication. A new second two-stage DRT-autograft procedure was performed for wound closure. Radiotherapy (60 Gys) was applied over the calvaria and conducted 1 month afterwards. There was no recurrence after 1-year monitoring for this patient and no radiodermatitis was found. The patient was not completely satisfied with cosmetics after the second two-step procedure, although approved contour and texture.

Conclusion

DRT and its variants are the most-widely used acellular dermal matrices. Our results showed that DRT is a valid option for reconstructive surgery for patients with oncologic dermatological defects, who will eventually need adjuvant radiotherapy.

Reference

Prezzavento GE, Calvi RNJ, Rodriguez JA, Taupin P. Integra Dermal Regeneration Template in Reconstructive Surgery for Cutaneous Tumours: a Two-year Retrospective Review. *J Wound Care.* 2022;31(7):612-619.

Abbreviation - STSG: split-thickness skin graft

Trademarked Items

Integra® Dermal Regeneration Template, Integra® Bilayer Wound Matrix (Integra LifeSciences, Princeton NJ)