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CASE REPORT

Rapid onset of squamous cell carcinoma in a thin skin graft donor site

Apparition rapide d'un carcinome épidermoïde sur le site de prélèvement d'une greffe de peau mince

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Summary
Background. — Squamous cell carcinomas are malignant tumours of epithelial origin that can appear on sites subjected to chronic inflammation after a period of several years. The rapid development of squamous cell carcinoma at the donor site for a thin skin graft is a rare and poorly understood situation.
Patients and methods. — We report the case of a patient undergoing thin skin grafting to cover the area of removal of a vertex squamous cell carcinoma and in whom squamous cell carcinoma appeared at the donor site within 9 weeks.
Discussion. — In our case, we ruled out intraoperative contamination because two sets of surgical instruments were used. Given the number of cases reported in the literature, a chance event seems unlikely. The hypothesis of an acute inflammatory process caused by scarring of the thin skin graft site appears to us the most convincing. Development of cancer at the graft donor site may thus be added to the list of complications of thin skin grafting.

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MOTS CLÉS
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Site donneur de greffe de peau ;
Greffe de peau mince ;
Inflammation

Résumé
Introduction. — Les carcinomes épidermoïdes sont des tumeurs malignes d'origine épithéliale qui peuvent apparaître sur des sites soumis à une inflammation chronique, après un délai de plusieurs années. L'apparition rapide d'un carcinome épidermoïde sur le site de prélèvement d'une greffe de peau mince est une situation rare et méconnue.
Cas clinique. — Nous rapportons le cas d'un patient qui a été greffé en peau mince pour couvrir l'exérèse d'un carcinome épidermoïde du vertex et chez qui est apparu un carcinome épidermoïde sur le site donneur, avec un délai de 9 semaines.
Discussion. — Cette observation pose la question d'une possible contamination chirurgicale peropératoire. Cette hypothèse nous paraît exclue ici en raison de l'utilisation d'une double instrumentation chirurgicale. Compte tenu du nombre de cas publiés dans la littérature, un événement fortuit paraît peu probable. L'hypothèse de la responsabilité du processus inflammatoire aigu provoqué par la cicatrisation de la prise de greffe nous semble la plus satisfaisante. La cancérisation du site donneur de greffe peut être ajoutée à la liste des complications de ce type de greffe.

Squamous cell carcinoma (SCC) consists of malignant tumours originating in keratinocytes. SCC is the second most common form of skin cancer in humans, immediately after basal cell carcinoma. The risk factors for onset of SCC are of 3 types: environmental (exposure to sun, to artificial sources of ultraviolet radiation and to chemical substances such as arsenic, hydrocarbons and pesticides, HPV), constitutional (light skin phototype, *xeroderma pigmentosum*) and other (immunodepression, chronic inflammation, chronic ulcers, scars) [1]. The items in the third group comprise factors affecting local inflammation. SCC was described for the first time in 1928 by Dr Marjolin as a late complication following surgery, trauma or chronic scarring [2], hence the eponymous clinical entity of ''Marjolin's ulcer''.

In Marjolin's ulcer, the time to onset of SCC on a chronic lesion is frequently several years. Herein, we report the occurrence of SCC in a thin skin graft donor site within a period of nine weeks. This rapid onset gave us cause to reflect upon the aetiopathogenesis of squamous cell cancer at donor sites.

Observation

An 86-year-old man was referred to our plastic surgery department by his dermatologist for excision of vertex lesions (Fig. 1). Histological analysis of the biopsy samples revealed several highly differentiated squamous cell carcinomas (SCC) that had developed on pre-epitheliomatous keratosis. The affected area was large, poorly delineated and relatively immobile, measuring 13 × 10 cm, and there was no cervical adenopathy. A cranial CT scan revealed no encephalic or bone lesions and no cervical adenopathy.

Surgical excision was performed under local anaesthetic with macroscopic margins of 1 cm, in a single block extending down as far as the galea aponeurotica, which appeared healthy and was left intact. The amount of material removed measured 14.7 × 12.5 cm. Thin skin grafting was performed during the same surgical procedure, using a donor site on the inner thigh, and employing separate surgical instruments and a different needle for the local anaesthetic. There were no initially visible lesions at this donor site. The graft was removed using a Zimmer pneumatic dermatome, expanded and attached using metal staples. The donor site was covered with a dressing containing calcium alginate. Histopathological analysis revealed 17 skin lesions, of which 3 consisted of well-differentiated and keratinising infiltrating SCC, while the remaining lesions consisted of actinic keratoses. All of the lesions were completely excised with margins greater than 1 cm. The patient was hospitalised for 5 days in the plastic surgery department, with no immediate postoperative complications, and with good initial healing

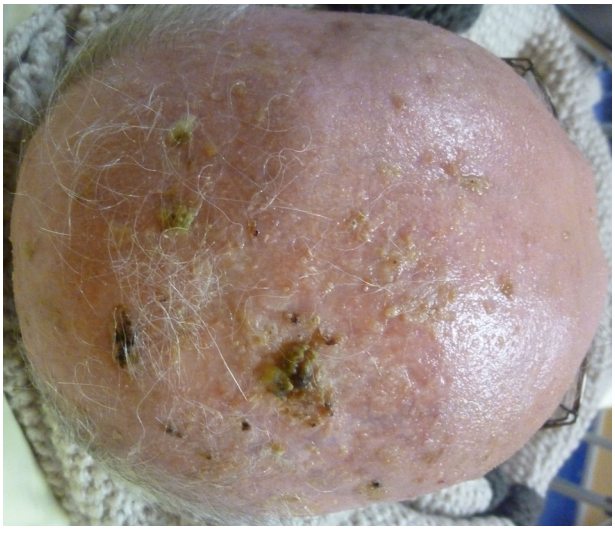

Figure 1. Numerous well-differentiated squamous cell carcinomas developing on pre-epitheliomatous keratosis.