CASE REPORT

AN ODD VERY EARLY MARJOLIN’S ULCER AFTER MINIMAL HAND BURN

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SUMMARY. Marjolin’s ulcer refers to any malignant transformation of chronic wounds. Different chronic wounds may be transformed into malignancies, although they usually have a latency period of between 25 to 40 years after the primary injury. We herein present an otherwise healthy man who developed squamous cell carcinoma (SCC) three weeks after burn injury. It is an interesting case because of this acute transformation into SCC, and may be considered as different to the usual presentation of Marjolin’s ulcers.

Keywords: Marjolin’s ulcer, SCC, keratoacanthoma, burn scar, BCC

RÉSUMÉ. L’ulcère de Marjolin correspond à l’apparition d’un cancer cutané sur une plaie chronique. Toute plaie chronique peut faire le lit d’un cancer, avec un temps de latence de 25 à 40 ans après la blessure. Nous présentons ici le cas d’un patient préalablement en bonne santé ayant développé un carcinome épidermoïde 3 semaines après une brûlure. Cette survenue précoce est inhabituelle au regard du temps de latence habituellement décrit.

Mots-clés : ulcère de Marjolin, carcinome épidermoïde, kérato-acanthome, cicatrice de brûlure

Introduction

Marjolin’s ulcer refers to any malignant transformation of a chronic wound.¹ Jean Nicholas Marjolin described these epithelial carcinomas for the first time in 1828.² The incidence of Marjolin’s ulcers has been reported to be as high as 2% in old burn scars and there is a male predominance.³ They most commonly develop in the 6th decade of life.³

Different chronic wounds, including burn, osteomyelitis, traumatic wounds, bedsores, amputation stumps and pilonidal sinuses, can transform into malignancies.⁴ This seems to be more frequent in burn and osteomyelitis wounds. Squamous cell carcinoma (SCC), basal cell carcinoma (BCC), melanoma and sarcoma are the possible malignancies in descending order.³ Marjolin’s ulcer usually has a more aggressive manner than primary skin malignancies and needs a more aggressive therapy.

Although they usually have a latency period of between 25 to 40 years after the primary injury, Marjolin’s ulcers can be divided into acute and chronic subtypes.⁶ Acute ulcers refer to carcinomas which develop in the first year of injury and are extremely rare. They are usually BCC and have been reported as early as 4 to 6 weeks.⁵ The chronic subtypes are much more common and are usually SCC. The mechanism is not known, but decreased vascularity and chronic inflammation in the previously injured tissue are possible causes.⁸

We present a patient who developed SCC three weeks after burn injury. It is an interesting case because of its very early transformation into SCC, and may be considered as a separate phenomenon that complicates acute burn wounds.

Case report

A 65-year-old man was referred to our clinic with a non-healing ulcer after contact burn with a hot pot three weeks prior to the visit. We found a 3-centimetre in diameter wound with unusual elevated margins on the dorsal surface of his right hand (Fig. 1). There was no lymphadenopathy on physical examination. The patient was otherwise healthy. He was a non-smoker and had no family history of malignancy. He had a history of occupational asbestos exposure for many years but no history of radiation or chemical exposure. The histopathol-
metastasis at the time of diagnosis. The mechanism of this transformation is still unknown. Decreased vascularity in the region, the toxin of injured tissues and low T cell count seem to be responsible for this phenomenon. Another recent theory is obliteration of regional lymphatic channels, which inhibits effective antigen delivery. This ‘immunologically unprivileged’ tissue is prone to unchecked tumour cell mutations. This may explain early Marjolin’s ulcer development. HLA DR4 and p53 also have been mentioned as a possible risk factor. In Tanzania a rare case of penile Marjolin’s ulcer developed 7 months after a human bite amputation stump had healed. A mesenchymal malignancy was reported in Turkey in a burned ulcer on the right elbow, with a latency period of 3 years. Love et al. reported a 14-year-old boy who developed SCC on a healed burn scar 6 weeks after burn injury.

In 2013 we reported another patient who developed squamous cell carcinoma (SCC) on the dorsal surface of his right hand 6 weeks after scald burn. The ulcer had not healed prior to malignant transformation. Our new patient has a prolonged history of asbestos occupational exposure, and this may need further study as a possible predisposing factor.

One differential diagnosis of squamous cell carcinoma is keratoacanthoma, which is most often a solitary, pink or flesh-coloured dome-shaped nodule with a central keratin plug that develops on the sun-exposed skin of elderly people. It grows rapidly to a size of 1-2 cm over a period of 2-10 weeks. Histological features that favour a diagnosis of keratoacanthoma over squamous cell carcinoma include the characteristic low-power architecture with a flask-like configuration and central keratin plug, lack of anaplasia, a sharp outline between tumour nests and stroma, and absence of stromal desmoplasia. In our case, cut section of the mass did not show the characteristic flask-shape appearance, and histologically there were infiltrative borders with extension of tumour cells to the dermis below the intact peripheral epidermis. There was also dysplasia with atypical mitosis, hyperchromasia and prominent nucleoli that confirm the diagnosis of squamous cell carcinoma. Another interesting point is that the burned area did not heal before SCC developed in these 2 patients.

Few cases of very early Marjolin’s ulcer have been reported in the literature. We think that these acute transformations can be considered as a different phenomenon, and need more precise investigation. Based on our reports, any non-healing acute burn wound with bizarre appearance should be an alarm sign and needs early biopsy.

BIBLIOGRAPHY