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Review

Neoplastic wounds and degenerescence

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Abstract Between 5% and 10% of cancer patients develop malignant wounds. Cancer wounds can occur as a clinical entity, especially over the breast, with the development of painful, spreading cancer invasions of the skin.

Marjolin's ulcers develop in open wounds after a long period, and form rare malignancies arising from previously traumatised, chronically inflamed, or scarred skin. Marjolin's ulcer is associated with malignant transformation of chronic ulcers, sinus tracts, and burn scars. Squamous cell carcinoma may be linked to a wide variety of medical and surgical clinical situations, such as chronic ulcers, sinuses, chronic osteomyelitis, radiotherapy, burn scars, chronic pressure ulcers, as well as cystostomy sites, and Fournier's gangrene scars. Melanomas, lymphomas, and other cancers can also be observed. Basal cell carcinoma is more frequently observed in ulcers associated with venous insufficiency. According to some reports, the ulcer should have existed for at least 3 years to evoke a diagnosis of degenerescence as opposed ulcerated tumour. Epidermoid carcinomas represent between 0.21% and 0.34% of cancers that develop over leg ulcers, but large series are still lacking. The current lack of epidemiological data could be rectified by more frequent evocation of the diagnosis and a policy of systematic biopsy of chronically open wounds.

Introduction

Atypical chronic wounds are caused by autoimmune disorders, infectious diseases, vascular diseases, metabolic and genetic diseases, external factors, psychiatric disorders, or drug-related reactions. Between 5% and 10% of patients with cancer develop malignant wounds. A cancer wound may occur as a clinical entity, especially over the breast, with the development of painful, spreading cancer invasions of the skin, with local treatment being wound specific.

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Marjolin's ulcers develop in open wounds after a long period of time and form rare malignancies arising from previously traumatised, chronically inflamed, or scarred skin. Jean-Nicolas Marjolin first described this entity in chronic burn scars in 1828 [1]; however, the association between thermal burn scars and neoplasia was previously recognised by Celsus in 100 [2]. In 1903, the term "Marjolin's ulcer" was coined by De Costa to describe a carcinoma arising from any type of scar tissue, and applied the term to tumours arising in leg ulcers [3]. Marjolin's ulcers have since been associated with malignant transformation of chronic ulcers, sinus tracts, and burn scars [4]. These squamous cell carcinomas are linked to chronic ulcers, sinuses, chronic osteomyelitis, radiotherapy, burn scars, chronic pressure ulcers, as well as cystostomy sites and Fournier's gangrene scars [5]. Squamous cell carcinomas are the main type of cancer reported in the literature, but melanomas, lymphomas, and other cancers can also be observed. Basal cell carcinoma is more frequently observed in ulcers associated with venous insufficiency [6]. According to some authors, the ulcer should have existed for at least 3 years when a diagnosis of degenerescence, as opposed to ulcerated tumour, is evoked. Epidermoid carcinomas represent between 0.21% and 0.34% of cancers that develop over leg ulcers, but large series are still lacking [7]. The relative risk of developing degenerescence in patients presenting with a leg ulcer is 5.80 [8].

Clinical aspects

Marjolin's ulcers

Origin

In the literature, Marjolin's ulcer may arise after a long period of time on a wound or a scar presenting with chronic inflammation. The interval period is usually longer than 10 years, a mean of 30 years having been considered as usual, a maximum of 68 years having been described. Scars resulting from spontaneous healing of burns form the majority of affected lesions, but some cases have been described in lesions resulting from hidradenitis, leprosy, diabetic foot ulcers, venous leg ulcers, amputation stumps, tropical ulcers, chronic decubitus ulcers, frostbite, pilonidal sinus, vaccination sites, or urinary fistula. Local degenerescence may also be observed after trauma wounds, in each case the lesion was not treated in time with adapted surgical closure. Burns are difficult to manage, but early excision and grafting may potentially prevent long-term healing with retractile and unstable scars. Late degenerescence typically arises in lesions with poor-quality cutaneous coverage and areas of slow, spontaneous covering of a wound that has been exposed to inflammation and shows delayed healing. Skin-grafted areas were reported not to develop such degenerescence.

Making an early diagnosis

Early diagnosis is difficult in chronically open wounds or in wounds repeatedly presenting with spontaneous desepidermization. The short-term recurrence of such events after long-term spontaneous healing represents a sign of potential degenerescence. When the scar has been stable and the wound closed for a long period of time, the sudden appearance of local signs are easier to detect.

The visual appearance is formed by an irregular, exophytic bud that is often hard with a friable central area or edges. This may be accompanied by spontaneous pain, necrosis, odour, haemorrhage, delayed healing, and increase in wound size. A chronic ulcer resistant to appropriate local and aetiological management should evoke the diagnosis, especially when the edges are overpassed by exuberant granulation tissue, or when local odour and pain increase (Figs. 1—3). Repeated biopsies should be undertaken if clinical signs are strongly suggestive.

The following additional clinical signs should also evoke the diagnosis: (1) a fragile, open, granulating wound that frequently bleeds, presenting violin areas and progressing locally on an aged scar; (2) a chronic crust reappearing despite adapted local treatments; (3) a local change in colour of the lesion compared to the skin; (4) any

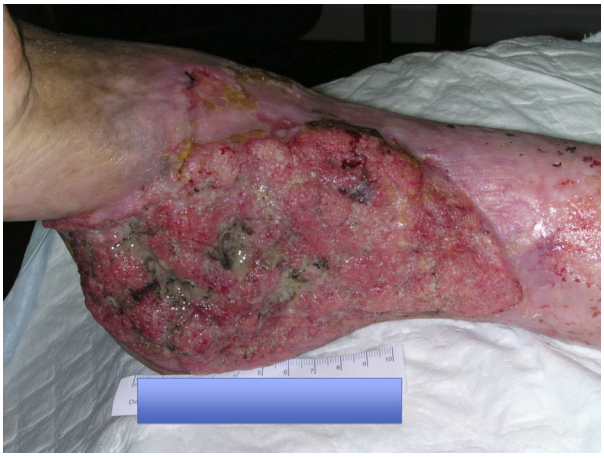

Figure 1 Post scar epidermoid carcinoma.