



THE RARE OCCURENCE OF SQUAMOUS CELL CARCINOMA IN CHRONIC NON HEALING ULCER

General Surgery

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ABSTRACT

There is an well established relationship between chronic ulcers and cutaneous malignancy of squamous cell carcinoma. Chronic ulcer is defined as break in continuity of the covering epithelium- skin, or mucous membrane for more than 6 weeks. We present a case report of a 62 year-old female patient with complaints of a painful, non-healing ulcer over gaiter area since 4 years.

KEYWORDS

arterial leg ulcer , venous leg ulcers, squamous cell carcinoma, non-healing ulcer, malignancy

1. INTRODUCTION

There is an well established relationship between chronic ulcers and cutaneous malignancy of squamous cell carcinoma. Chronic ulcer is defined as break in continuity of the covering epithelium-skin, or mucous membrane for more than 6 weeks. We present a case report of a 62 year-old female patient with complaints of a painful, non-healing ulcer over gaiter area since 4 years. The further evaluation of the non healing ulcer lead us to the diagnosis of squamous cell carcinoma. The clinical presentations of SCCs are varied ranging from innocuously appearing lesions (simulating simple ulcers in the early stages) to overtly fungating and exophytic (mushroom-like) growths. Although an ulcerated SCC is classically described to have prominent everted edges and a necrotic tumour base, these features are not always present, particularly in the early stages of their development. Similarly, SCCs which develop from long-standing benign ulcers seldom have raised and everted edges. Therefore, irrespective of whether an ulcer undergoes malignant transformation to an SCC or an SCC presenting as an ulcer, their diagnosis can be challenging, even for the experienced clinician. SCC is amenable to simple surgical excision if detected early; however, due to the tumour's propensity for local destruction, deeper invasion and the potential for metas- tasis, delay in diagnosis and management would necessitate a more radical approach and may even result in loss of the affected digit or limb. In addition, an SCC which has metastasised could be life threatening. There- fore, early accurate diagnosis and definitive management is imperative.

2. CASE PROFILE

62 year old female presented in our OPD with history of a nonhealing ulcer present on gaiters area just above medial malleolus since 4 years , which has increased in size with pain since 1 year. There was history of ATT for duration of 6 month 10 years back ,no past history of trauma or diabetes. No regional lymphadenopathy seen. Further evaluation was done by routine blood investigations , Xray and angiography. Additionally, a wedge section biopsy was taken which confirmed the diagnosis of well differentiated squamous cell carcinoma (SCC). She underwent an excision of the lesion with 1-cm margins, and the defect was covered with a split-thickness skin graft.



ARTERIAL DOPPLER LEFT LOWER LIMB :-

- Diffuse atherosclerotic changes in form of small sot calcified plaque is seen in left lower limb arteries.
- Left anterior tibial artery, Post tibial artery shows biphasic waveform and color flow pattern.

VENOUS DOPPLER LEFT LOWER LIMB:-

- Left ant. Tibial veins and post. Tibial vein are compressible and show color flow and waveform with augmentation.

HISTOPATHOLOGY REPORT:-

- **NATURE:-**wedge biopsy, ulcer site, left lower leg
- **DESCRIPTION:-** formalin fixed specimen consist of single grey brown soft tissue piece measuring 0.5x0.5x0.2cm
- **IMPRESSION:-** well differentiated squamous cell carcinoma

3. DISCUSSION

SCC is the second most common cutaneous malignancy after basal cell carcinoma (BCC). It has a 2 : 1 male-to-female preponderance and tends to occur in the elderly age group(1). SCC also arises as a result of malignant transformation in long-standing chronic non healing ulcers. Although Marjolin (1827) described the phenomenon of malignant degeneration from burn scars, the term 'Marjolin's ulcer' currently encompasses SCCs arising from any form of long-standing chronic ulcers (2) or scars (3), specifically burn scars . Other chronic conditions such as pressure ulcers, chronic sinus (5), pilonidal sinuses , chronic lymphoedema and osteomyelitis also predispose to the development of SCC. In venous ulcers, it appears that SCC is more frequent than

BCC (6), but more cases of BCC arising from chronic venous leg ulcers have recently been reported (7,8). The malignant transformation of chronic ulcers depends on duration of the ulcer; the longer the duration, higher are the chances for malignant change (9).

Pathophysiology of SCC arising in chronic ulcers

Although the exact mechanism by which malignancies arise within chronic wounds remains a matter of conjecture, several theories have been postulated. A two-step process (initiation phase and promotion phase) by which normal cells are converted to malignancy in burn scars was proposed by Arons et al. (10) in 1965. During the initiation phase, normal cells convert to dormant, cancerous cells. The promotion phase allows dormant cells to change into a tumour by the stimulation of a cocarcinogen such as infection. Fleming et al. (1990) proposed that toxins released from damaged tissue leads to mutation of cells and eventually a tumour (11). Chronic irritation with repeated damage and attempted repair of the damaged cutaneous tissue was purported to be a contributing factor in the initiation of carcinogenesis by Hill et al. (1990) (12). Similarly, Ozek et al. (2001) proposed the mechanism of malignant change to a sequence of repeated ulceration and healing (13). It has also been suggested that trauma to the skin results in the implantation of epidermal cells into the dermis. This causes a foreign body reaction within the dermis and alters the normal regenerative process of the tissue. Further injury and subsequent healing in this tissue will not be endured in the same manner as normal tissue, resulting in malignancy (10,11).

Management

In the early stages, SCC is amenable to simple excision with primary closure or a split-thickness skin graft. Therefore, to achieve an optimal outcome, it is important to obtain an early accurate diagnosis of the condition. Biopsy of the suspicious lesions for histopathology remains the 'gold standard' for diagnosis. Excision biopsy is the preferred method but is not always practical either due to size or location of the lesion, or due to the lack of technical expertise to attain wound closure. In such circumstances, a full-thickness incisional or punch (4–6mm is sufficient) biopsy is a reasonable alternative (14). Small, isolated skin ulcerations and lesions suspicious for carcinoma could be treated conservatively for 2–3 weeks with a bland antibiotic ointment and a continuous light dressing. Any lesion that has not healed after 2 or 3 weeks of conservative treatment must be considered a skin cancer until proven otherwise (15). The principles of management of an SCC depend on the age and general health of the patient, site and size of the lesion, and the presence or absence of metastasis. In general, treatment should primarily involve complete eradication of the tumour. Surgical excision continues to remain the preferred and most appropriate treatment for SCC of the skin, with the surgical margin being dependent on the tumour diameter and the site of the lesion. The issue of margins is mostly discussed in the literature in terms of 'melanotic (melanoma) skin cancers (MSK)' and 'non melanotic skin cancers (NMSK)', which encompasses SCC and BCC. This article focuses only on the management of NMSK. As a rule of thumb, the greater the exophytic character of the lesion, the less invasion there is and the less margin required (15). When the primary lesion is a nodule, as in a well-demarcated BCC, extending into the dermis, a 2–3-mm margin is adequate (15). Thomas et al. (2003) in a prospective study of 150 NMSK observed that 4-mm surgical margins gave a microscopic lateral margin beyond one microscopic high-power field (0.5 mm) in 96% of cases of BCC and 97% of cases of SCC. Consequently, they suggest a 4-mm margin as the optimal treatment in the management of uncomplicated BCC and SCC. In more invasive or ulcerative types, a greater margin is required. A margin of 5 mm for BCC and a margin of 10 mm for SCC are suggested, although to state that this categorically is an oversimplification and could result in excess or inadequate excision of the adjacent tissues. When determining the margins for excision, various factors need to be considered including the type of tumour, location, its size, whether it is primary or recurrent, and the age and general health of the patient. The operating surgeon should make a clinical decision on an individual patient basis, taking all variables into account. After excision of the lesion with adequate margins, the wound is either closed primarily or if the edges cannot be approximated without tension, then a skin graft (split thickness or full thickness) may be required. In certain circumstances, closure of the defect using local flaps

4. CONCLUSION

Squamous cell carcinoma occurring in non healing ulcers when detected in time is amenable to simple surgical excision. However, if

there is a delay in diagnosis the tumour has the propensity to develop local destruction, deeper invasion and the potential for metastasis. Detail investigation in time can help avoid loss of the affected digit or limb. Therefore our case highlights the need for further evaluation by wedge biopsy of any non-healing ulcer.

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