Case report. Acral lentiginous melanoma or diabetic foot ulcer?

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Article points

1. Despite being the rarest form of cutaneous melanoma, acral lentiginous melanoma (ALM) is the most common type occurring on the lower extremity.
2. Late presentation and delays in recognising the skin tumour contribute to its poor prognostic profile.
3. This paper highlights a case in which an ALM was misdiagnosed as a diabetic foot ulcer.
4. Practitioner awareness and education is the key to early recognition of this aggressive tumour.

Key words

- Malignant melanoma
- Acral lentiginous melanoma
- Overgranulating ulcer

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In June 2006, a 54-year-old Caucasian female was referred to the Department of Podiatric Surgery by the hospital podiatrist for debridement of a long-standing, over-granulating ulcer to the left heel. She reported a history of a painful, spontaneous heel ulceration approximately 1 year prior and had noted that the ulcer had increased in size. Prior to the referral, the individual had been seen since March 2006 by her primary care team for regular re-dressings and offloading that had failed to improve healing.

At the time of assessment, the female was unemployed and was a long-time tobacco user, smoking approximately 20 cigarettes per day. Co-morbidities included type 2 diabetes (diet controlled), controlled hypertension and dyspepsia. She had a high BMI (35 kg/m^2) but no sensory neuropathy on standard assessment with 10g monofilaments. Circulatory status was good with easily palpable pedal pulses and no evidence of small vessel disease. At presentation, there was a moderately sized red/brown fleshy growth to the posterior/plantar aspect of the left heel. The lesion was surrounded by a small amount of macerated skin with minor pigmentary changes (*Figure 1*). Owing to the unusual history and suspicious appearance of the wound, a biopsy was required to establish the diagnosis.

Excision was conducted under local anaesthetic and revealed a firm, rubbery reddy-brown soft tissue mass of approximately 2.5cm maximal diameter with a small pedicle attaching the lesion to the heel. Complete excision was not undertaken at the time of the biopsy due to the inability to obtain complete skin closure at this site and lack of confirmatory diagnosis (*Figure 2*). The residual wound was left to heal entirely by secondary intention and progressed to full healing within 4 weeks using simple, non-adherent wound dressings. No offloading was required. The returned biopsy reported a diagnosis of acral lentiginous melanoma (ALM).

With the diagnosis established, the patient was passed to the regional cancer unit. In November 2006, she underwent wide excision and skin grafting. In March 2007, the wound edges were noted to be over-granulating again and a suspicious lesion was seen to the anterior skin

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1. ALM is the rarest of the four types of cutaneous melanoma.
2. Owing to its preferred acral site and variable appearance, the condition is frequently misdiagnosed as other, more common, pedal dermatoses.
3. Recent papers highlight a number of cases of melanoma mistaken for diabetic foot ulceration.

and enlargement of the inguinal lymph node, both of which proved positive for melanoma on biopsy.

At review in April 2007, further cutaneous melanomas were noted in the skin with additional lymph node involvement. Plain X-ray revealed pelvic metastases. No further information was available regarding the status of this individual but the prognosis was likely to be poor in light of the lesion dissemination.

Discussion

This particular case illustrates the willingness to apply a label of 'diabetic ulceration' to an individual who has diabetes and a lesion. While in most cases, it may be that an aetiological association exists between people with diabetes and an ulcer, further consideration should have been given in this particular case owing to the:

- absence of neuropathy
- adequacy of the peripheral vascular status
- failure of the ulceration to respond despite intervention
- atypical features of this clinical presentation compared with typical neuropathic ulceration.

ALM is the rarest of the four types of cutaneous melanoma. It derives its name from its particular predilection for acral areas of the skin: predominantly the soles, digits, palms, nail beds and dorsum of the foot. In addition, the lesion shows a unique histology under the microscope distinguishing it from other types of melanoma that may also appear on the foot (Reed, 1976). ALM can show variable degrees of pigmentation (from none to black) and may show atypical features not seen in other types of melanoma.

Owing to its preferred acral site and variable appearance, the condition is frequently misdiagnosed as other, more common, pedal dermatoses. Studies document alternative diagnoses such as warts (Dalmau et al, 2006; Rosen, 2006) tinea pedis (Serarslan et al, 2004), onychomycosis, hyperkeratosis, subungual haematoma and ulceration (Soon et al, 2003). As tumour thickness is a strong predictor of survival, it is essential that all types of melanoma are diagnosed early to ensure the best possible prognosis.

Figure 1. The lesion surrounded by a small amount of macerated skin.

Figure 2. Complete excision was not undertaken at the time of the biopsy due to the inability to obtain complete skin closure at this site and lack of confirmatory diagnosis.

Ulceration is a common problem in diabetes. In all cases, careful assessment is required to ascertain the underlying pathology. With the diabetic foot, emphasis is placed on establishing aetiology, but frequently, pathways and algorithms focus on the recognition of neuropathy, vascular disease and infection and other aetiologies are seldom considered or emphasised. Recent papers highlight a number of cases of melanoma mistaken for diabetic foot ulceration (Gregson and Allain, 2004; Kong et al, 2005a; Kong et al, 2005b; Rogers et al, 2007; Yesil et al, 2007). In most of these, along with the presented case, the supposition that the lesions were initially 'typical' diabetic ulcers had led to a delay in diagnosis.

Conclusion

To improve early recognition for a lesion with such variable features is a difficult task considering the clinical spectrum of malignant melanoma. However, lessons can be learned. First, as shown in this case, the absence of neuropathy or vascular disease should alert a practitioner to consider nondiabetes-related aetiologies. Second, as with normal diabetes care, people should be educated and remain vigilant to note and report any recent changes to their skin. Finally, a high index of suspicion should be held with regard to any lesion that exhibits unusual characteristics or which fails to show signs of healing, despite appropriate wound care. In such cases, an early biopsy should be considered. ■

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Page points

1. The absence of neuropathy or vascular disease should alert a practitioner to consider nondiabetes-related aetiologies.
2. As with normal diabetes care, people should be educated and remain vigilant to note and report any recent changes to their skin.
3. A high index of suspicion should be held with regard to any lesion that exhibits unusual characteristics or which fails to show signs of healing, despite appropriate wound care.