

A smudge on the sole – safe or sinister?

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With sufficient training and expertise, clinicians can use dermoscopy to improve diagnostic accuracy for melanocytic lesions and other common skin tumours.

Case presentation

A 57-year-old Caucasian woman presented for a routine skin check. She had a pigmented lesion on the sole of her left foot, which she had circled so she would not forget to enquire about it. There was a past history of lentigo maligna and the patient, now aware that her risk of a second primary melanoma was increased, was anxious about each check up. She felt that the lesion had been stable and longstanding, but her husband insisted that it had grown over the years.

The lesion was a somewhat smudgy, light tan macule measuring 5 x 3 mm and was located just proximal to the base of the fifth toe on plantar skin (Figure 1a). There appeared to be some accentuation of pigment in a linear configuration. On dermoscopy the pigment was aligned in a lattice pattern and planar eccrine gland openings were not observed (Figure 1b).

Diagnosis

The clinical diagnosis was a benign acral naevus.



Figure 1a. The pigmented lesion (circled) on the left lateral sole.

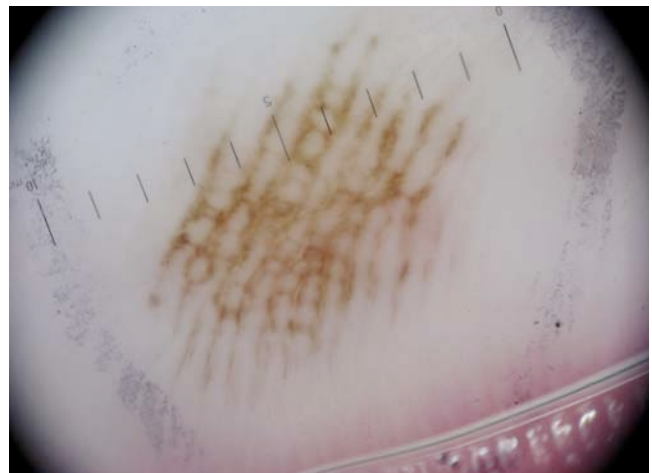


Figure 1b. Dermoscopy of the lesion showing a lattice pattern of pigment, with both parallel furrows and cross-striations.

Discussion

Benign melanocytic naevi are frequently found on the soles, often to the surprise of patients. Acral lentiginous melanoma is seen more commonly in Asian or dark-skinned people, but it does occur in Caucasians and is usually diagnosed at an advanced thickness.

The dermoscopic patterns of benign acral naevi have now been described very clearly, primarily in large studies from Japan. These are:

- a parallel furrow pattern characterised by linear pigmentation within the longitudinal grooves of the dermatoglyphic markings
- a fibrillar or filamentous pattern characterised by fine and delicate linear pigmentation that appears smudged

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continued



Figure 2a. A level IV, 2.4 mm thick acral lentiginous melanoma on the heel.

- a lattice pattern characterised by fine pigmented lines in the formation of a grid with cross-striations.

Recent studies have shown that each of these patterns has a fairly consistent anatomical location. The furrow pattern occurs on nonweightbearing sites other than the arch of the foot; the fibrillar pattern occurs on weightbearing sites; and the lattice pattern occurs primarily on the arch but occasionally around the perimeter of the plantar sole – as in the case described above.

The major differential diagnoses to consider with respect to pigmented plantar lesions include acral lentiginous melanoma (Figure 2a) and talon noir. Acral lentiginous melanoma has a ridge pattern where pigment is preferentially aligned on the crests of the undulating dermatoglyphics rather than within the troughs. These ridges are broader than in the benign furrowed pattern of benign acral naevi, and eccrine gland openings are frequently accentuated in this appearance (Figure 2b). A talon noir, on the other hand, represents subcorneal haemorrhage due to traumatic shearing forces, and dermoscopically may look black or purple and otherwise structureless. A blade can be used to pare away superficial epidermis to confirm the presence of blood in this scenario.

Keypoint

Dermoscopy can provide the clinician with great confidence regarding acral pigmented lesions because of the distinct benign and malignant patterns. When doubt exists, excisional biopsy for histopathology is generally warranted. **MT**

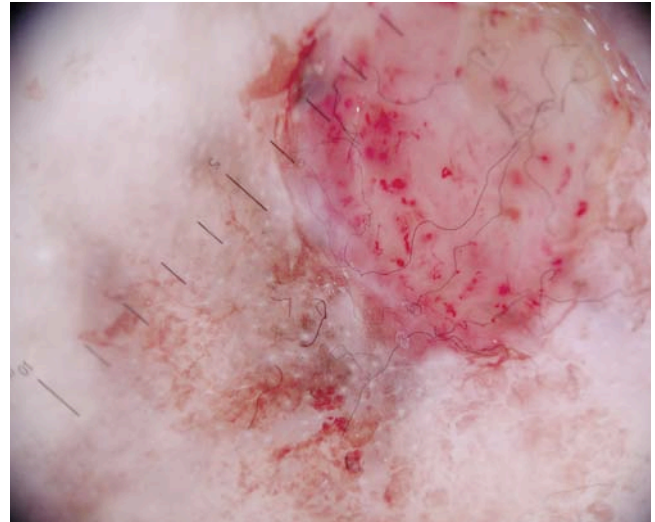


Figure 2b. Dermoscopy of the lesion showing eccentric blue-grey pigmentation (10 o'clock) within an ulcerated red nodule, and further adjacent brown pigmentation (6 to 9 o'clock) outlining the eccrine gland openings.

Further reading

1. Curr N, Chamberlain AJ. A freckle on the foot. *Med Today* 2005; 6(9): 63.
2. Miyazaki A, Saida T, Koga H, Oguchi S, Suzuki T, Tsuchida T. Anatomical and histopathological correlates of the dermoscopic patterns seen in melanocytic nevi on the sole: a retrospective study. *J Am Acad Dermatol* 2005; 53: 230-236.

DECLARATION OF INTEREST: None.