

Actinopathic challenge

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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 presentations

Case 1

A 78-year-old woman with a history of multiple nonmelanoma skin cancers presented for a routine skin check and a pigmented lesion was noted on her left cheek (Figure 1). The patient recalled that the lesion had been present for more than six months and had possibly become larger over that time.

Examination revealed a lightly pigmented, irregularly shaped, ill-defined scaly plaque, measuring 7 x 5 mm, on a background of moderate solar damage. On dermoscopy, there was a background pseudonetwork emphasising the follicular openings (Figure 2). The tan-coloured, erythematous pseudonetwork was patchy and incomplete in areas. There were some subtle interfollicular dotted vessels.

The clinical diagnosis was a pigmented solar keratosis.

Case 2

A 62-year-old woman presented with two slowly enlarging, well-demarcated pigmented plaques on her right shin (Figure 3). She was unaware of the precise evolution of each lesion, but had been prompted to seek attention by her husband who felt the lesions had become enlarged. The lesions were otherwise

asymptomatic. When younger, she had enjoyed an active outdoor lifestyle. There was no personal or family history of melanoma or nonmelanoma skin cancer.

On examination, the patient had two lightly hyperkeratotic, well-demarcated pigmented plaques, measuring 15 x 10 mm and 9 x 8 mm, on the right shin. On dermoscopy of the larger lesion, a pigment network was visible peripherally with pigmented streaks (seen best at 12 o'clock and six o'clock) and white-to-yellowish hyperkeratosis (Figure 4). The lesion was primarily tan and dark brown in colour. Some subtle dotted and glomerular vessels were present focally and the centre of the lesion was mostly structureless.

The differential diagnoses included pigmented seborrhoeic keratoses, melanoma or pigmented Bowen's disease. A shave biopsy of both lesions confirmed the diagnosis of pigmented Bowen's disease.

Case 3

A 56-year-old man with a history of chronic sun exposure, presented with a squamoproliferative lesion on the right posterolateral calf (Figure 5). The lesion had been present for several months and was growing and becoming increasingly painful.

Examination revealed a raised, firm, flesh-coloured hyperkeratotic nodule measuring a maximum of 10 mm in diameter. Dermoscopy of the plaque revealed a whitish-pink lesion with central hyperkeratosis and marginal linear irregular and hairpin vessels (Figure 6).

A diagnostic punch biopsy was performed and histopathology confirmed a well-differentiated squamous cell carcinoma (SCC).



Figure 1. Prominent pigmented lesion on the left cheek.

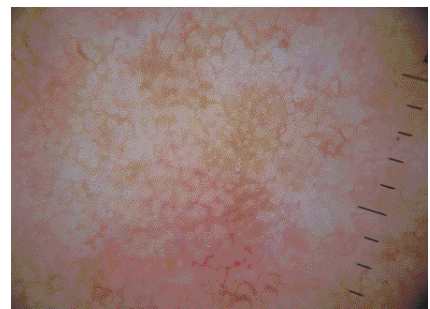


Figure 2. Dermoscopy of a lesion on the left cheek (from Figure 1) demonstrating a patchy tan-coloured pseudonetwork.

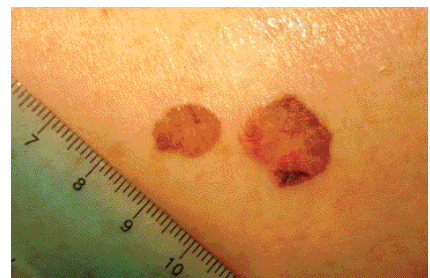


Figure 3. Pigmented plaques on the right shin.

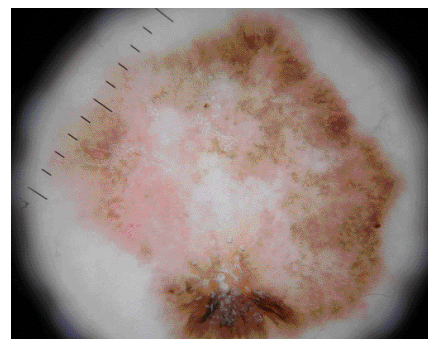


Figure 4. Dermoscopy of the larger lesion from Figure 3 demonstrating network-like structures, pigmented streaks and hyperkeratosis.

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continued



Figure 5. Squamoproliferative lesion on the right posterolateral calf.



Figure 6. Dermoscopy of the lesion from Figure 5 demonstrating a fleshy pink nodule with hyperkeratosis and hairpin vessels.

Diagnosis

All three cases represent differing degrees of solar-related keratinocyte dysplasia – solar keratosis, Bowen’s disease (SCC *in situ* or intraepidermal carcinoma) and invasive SCC.

Discussion

These three cases demonstrate the diagnostic value of dermoscopy in differentiating keratinising skin lesions.

Case 1 highlights the dermoscopic appearance of a pigmented solar keratosis well, and these are often easily diagnosed clinically. The roughened texture helps to differentiate them from other pigmented facial lesions such as solar lentigo and lentigo maligna. If all facial pigmented lesions demonstrate a pseudo-network that emphasises follicular openings, solar keratoses are recognised by their

superficial, broken-up network that represents patchy hyperkeratosis.

The dermoscopic features of nonpigmented erythematous solar keratoses have been reported and include:

- pink-red perifollicular pseudonetwork
- white-yellow surface hyperkeratosis
- fine linear wavy perifollicular vessels (least easily appreciated)
- follicular plugging with keratinous material.

These features combine to create a ‘strawberry-like appearance’. Unfortunately, some features of lentigo maligna, such as rhomboidal structures and perifollicular grey to brown dots (‘annular granular structures’), may occasionally be seen in pigmented solar keratoses making their dermoscopic distinction more difficult. Very occasionally the two entities may co-exist in close proximity. Of course, where doubt exists, a biopsy for histopathology remains the gold standard.

The patient in Case 2 posed more of a diagnostic dilemma because network-like structures and pigmented streaks were present, suggesting a melanocytic lesion. The clinical appearance was at odds with this and indeed a number of nonmelanocytic lesions, such as solar lentigines, seborrhoeic keratoses, pigmented basal cell carcinomas, dermatofibromas and accessory nipples, may possess network-like structures. These lesions therefore defy the first stage of the two-step algorithm¹ – determining if a pigmented lesion is melanocytic or nonmelanocytic. If there is a lack of clinicodermoscopic correlation, a biopsy should be taken to resolve the diagnosis.

The patient in Case 3 displayed features of a typical well-differentiated SCC. It must be noted that dermoscopy is only of limited value in the assessment of tumours such as these. Despite this, some clues can be gained from a dermoscopic examination.

The dermoscopic presence of hairpin vessels (elongated, looped and sometimes twisted vessels) is typically seen at the margin of squamoproliferative lesions

such as SCC or seborrhoeic keratoses. The presence of milia-like cysts would point towards a diagnosis of seborrhoeic keratosis. When hairpin vessels occur in conjunction with a polymorphous mix of vessels, such as dotted, glomerular and linear irregular vessels, melanoma should be considered. When considering amelanotic melanoma, remember that they are typically a non-scaly red raw nodule, rather than a keratinising lesion.

Keypoints

- Pigmented solar keratoses may share features with lentigo maligna.
- In Bowen’s disease, network-like structures and pigmented streaks may be seen among other nonmelanocytic tumours.
- Hairpin vessels are typically seen in squamoproliferative tumours such as SCC.

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Reference

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Further reading

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COMPETING INTERESTS: None.