

Dermoscopic detective work

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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 52-year-old woman presented for a skin check with no particular concerns. There was a family history of melanoma but her naevus pattern was otherwise not particularly high risk. A pigmented lesion was prominent over the patient's posterior thigh (Figure 1). As it was largely out of sight, she was unable to give a clear history of its duration and whether there had been any change over time.

The irregular tan-coloured plaque was on a background of abundant solar lentigines. On dermoscopy, an orange-brown pigment could be seen filling and highlighting numerous surface crypts, fissures and comedo-like openings, which confirmed the diagnosis of seborrhoeic keratosis (Figure 2).

In this case, the seborrhoeic keratosis had been tinted by the recent application of fake tan. Following direct questioning, the patient confirmed that a tanning lotion had been used several weeks before. Some of the pigment was able to be removed with an alcohol wipe.

Case 2

A 65-year-old woman presented for assessment of an odd pigmented lesion on the right temple (Figure 3). Her GP had pointed it out and she realised it had changed colour in recent weeks. On examination, she had a triangular tan-coloured plaque arising on the right temple with a small nontender cutaneous horn at the superolateral pole. Unusually, there was a blue hue to part of the horn.

On dermoscopy, the horn and plaque were primarily tan-coloured but a bright blue pigment could be seen highlighting the terraced layers of the horn (Figure 4). A shave biopsy confirmed that the two different coloured components of the lesion were seborrhoeic keratosis in origin.

The mystery of the blue pigment was finally resolved after much questioning of the patient. She vehemently denied using a 'blue rinse' hair dye but ultimately recalled using a blue shampoo and conditioner (Aveda Blue Malva), which was recommended by her hair stylist to brighten the colour of her grey hair. The blue malva flower bears violet blossoms and has been used for many years to dye silver hair and as a homeopathic remedy.



Figure 1. Pigmented lesion on the posterior thigh (scale in centimetres).

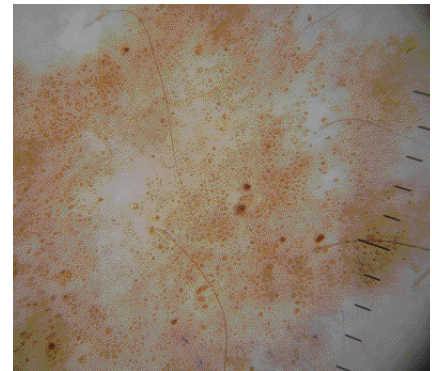


Figure 2. Dermoscopy demonstrating an orange-brown pigment filling abundant pseudofollicular openings, fissures and crypts (scale in millimetres).

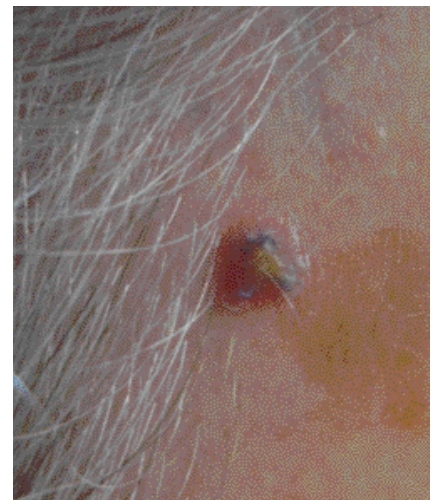


Figure 3. Cutaneous horn and an associated tan-coloured plaque on the right temple.

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Figure 4. Dermoscopy demonstrating a tan-coloured amorphous plaque with bright blue pigmentation accentuating the terraced topography of the cutaneous horn. Fine hairpin vessels are barely visible at the perimeter of the horn (scale in millimetres).

Case 3

A 66-year-old man presented for a skin check. He was particularly concerned about an itchy skin lesion over the right side of the lower back that had been pointed out by a carer at his nursing home (Figure 5). He was confined to a wheelchair due to a spinal disease and had a past history of basal cell carcinoma.

The lesion in question was prominent and multicoloured. The background skin was studded with abundant flattened seborrhoeic keratoses in a fir-tree pattern. The patient's posture in the wheelchair most likely contributed to this. The lesion in question had a curious blackened focus at three o'clock (Figure 6). On dermoscopy (Figure 7), the blackened focus was clearly exogenous and was in fact a squashed and expired bed bug (*Cimex lectularius*).

The remaining dermoscopic features were consistent with an irritated seborrhoeic keratosis with orange blotches (probably squamous eddies), erythema, hyperkeratosis, network-like structures and milia-like cysts. The expired arthropod was easily removed and the keratosis was treated with liquid nitrogen

continued

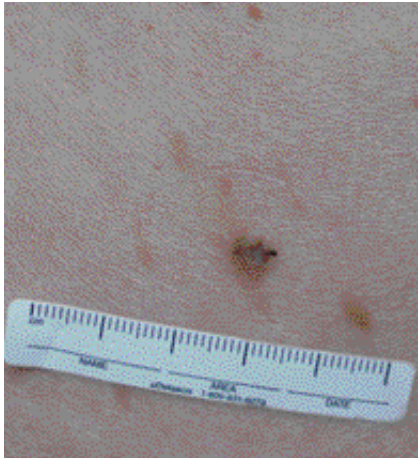


Figure 5. Pigmented lesion on the right side of the lower back (scale in centimetres).

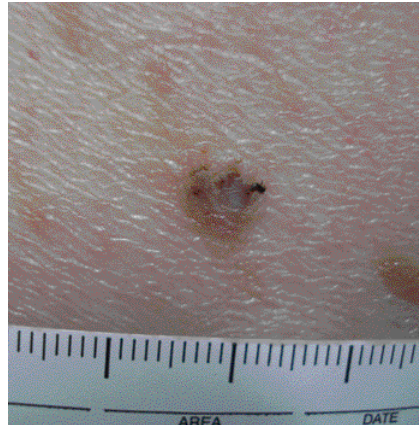


Figure 6. Macro photograph of the pigmented lesion on the right side of the lower back (scale in centimetres).



Figure 7. Dermoscopy demonstrating features of an irritated seborrhoeic keratosis with an adherent compressed bed bug.

cryotherapy. The nursing home was advised to seek advice from a pest control agent in case of a local infestation of bed bugs.

Diagnosis

In each case, the diagnosis was confirmed as seborrhoeic keratosis despite its different guises.

Discussion

Seborrhoeic keratoses are a regular finding during examination of the skin and they increase in numbers with age. When thick and waxy they usually don't present any diagnostic difficulties. They may be identified dermoscopically by the presence of milia-like cysts, comedo-like openings, surface undulations (ridges, fissures, crypts and 'fat fingers'), hairpin vessels and, less often, network-like structures. Their colour ranges from light tan to dark brown, or even black. Their borders are usually sharply demarcated and sometimes appear moth-eaten.

As seborrhoeic keratoses have a three-dimensional topography they easily take up exogenous pigments such as fake-tanning lotion or tinted shampoo, as in Cases 1 and 2. This alveolar appearance taken on by thin seborrhoeic keratoses after application of fake tan has been

described as the 'St. Tropez sign' and is increasingly recognisable on the legs of women who use such products. In fact, women with abundant solar lentigines and flat seborrhoeic keratoses on the legs soon realise that these products don't provide an even finish and often discontinue their use for this reason. Where exogenous pigment is thought to alter the appearance of a seborrhoeic keratosis, an isopropyl alcohol wipe can be simply used to remove the stain and clarify the diagnosis.

Case 3 highlights another bizarre explanation for an irritated and symptomatic pigmented lesion, where dermoscopy easily identified the root of the problem. The use of dermoscopy to identify infections and infestations such as lice and scabies is a relatively new application that has been recently termed 'entodermoscopy'.

Keypoint

These case presentations demonstrate how exogenous factors can easily influence the routine identification of seborrhoeic keratoses. Dermoscopy has an important role not only in identifying melanoma but also in avoiding unnecessary biopsy of clear-cut benign lesions. In many instances 10-times

magnification provides a simple solution to a dilemma that naked eye examination cannot solve.

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Further reading

1. Martín JM, Monteagudo C, Calduch L, Villalón G, Jordá E. Dermoscopic changes in acquired melanocytic naevi and seborrhoeic keratoses after the application of a self-tanning airbrush. *Arch Dermatol* 2007; 143: 1453-1455.
2. Orpin SD, Preston PW, Salim A. The 'St. Tropez' sign: a new dermoscopic feature of seborrhoeic keratoses. *Clin Exp Dermatol* 2006; 31: 707-709.
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4. Kopf AW, Rabinovitz H, Marghoob A, et al. "Fat fingers": a clue in the dermoscopic diagnosis of seborrhoeic keratoses. *J Am Acad Dermatol* 2006; 55: 1089-1091.

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