When the hue is blue

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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 75-year-old man presented for assessment of a solitary blue nodule arising from the margin of the left lateral lower eyelid (Figure 1). He reported that the lesion had been present and stable for 'months'. The nodule was fixed, rather than fluctuating, and it was asymptomatic. The patient had a history of significant recreational sun exposure and multiple nonmelanoma skin cancers.

On examination, the nodule was firm and blue and measured 5 x 3 mm. The overlying eyelashes were intact. There were background changes of dermatoheliosis (photoageing) and a number of yellowish periocular milial cysts.

Dermoscopy using a nonpolarised instrument and gel interface demonstrated a well-demarcated ovoid tumour with deep brilliant bluish colour (Figure 2). A number of marginal whitish blotches were noted, particularly superiorly.

A diagnostic 3 mm punch biopsy was performed and histopathology confirmed an eccrine hidrocystoma.

Case 2

A 44-year-old woman attended for assessment of an enlarging bluish nodule just below the margin of her left lateral lower eyelid (Figure 3). The lesion was asymptomatic and had appeared five weeks earlier. She had a history of level IV lentigo maligna melanoma of the same lower eyelid, which had been excised and reconstructed with a full thickness skin graft three years previously.

On examination, there was a firm to hard lilac-coloured dermal nodule arising from the eyelid, 1 cm lateral to a well healed skin graft.

Dermoscopy using a nonpolarised instrument and gel interface demonstrated a faint bluish blush only (Figure 4). There were no specific vascular features and no features that might suggest a melanocytic lesion, such as dots, globules, streaks or network.

As the diagnosis was unclear, a diagnostic excisional biopsy was performed. Histopathology demonstrated a dermal deposit of melanoma consistent with a satellite metastasis. The patient underwent complete resection and reconstruction of the lower eyelid.

Discussion

Although the technique of dermoscopy has been shown to improve diagnostic accuracy over unaided visual inspection by up to 30%,[1,2] clinicians need to be mindful of certain limitations, such as

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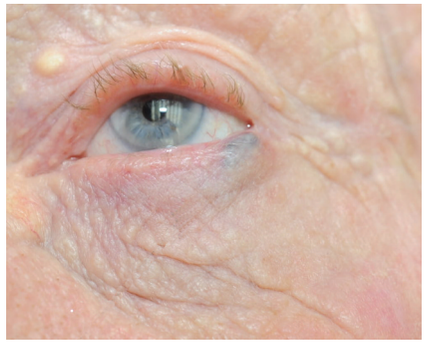

Figure 1. Case 1: the pigmented lesion on the margin of the lower eyelid.

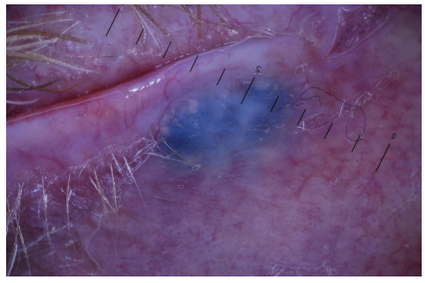

Figure 2. Case 1: dermoscopy demonstrating brilliant bluish colour and marginal whitish blotches.

Figure 3. Case 2: the lesion below the lower eyelid.

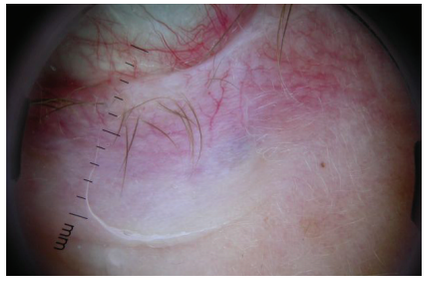

Figure 4. Case 2: dermoscopy demonstrating a faint bluish blush only.

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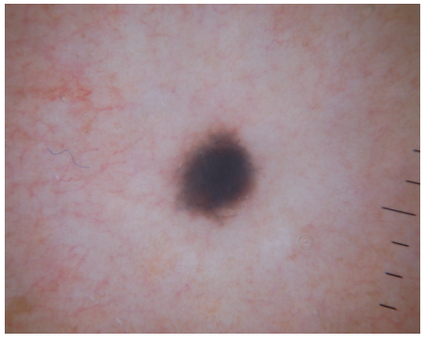

Figure 5. Dermoscopy of a blue naevus demonstrating homogenous deep steely blue pigmentation.

predominantly blue colour in lesions. As dermoscopic colour correlates with depth of pigment, such lesions are primarily within the mid to deep reticular dermis. Although melanin pigment is typically black, the colour of a blue naevus (Figure 5), which appears uniformly 'steely blue', is said to be due to the Tyndall effect (preferential scattering and reflection of short wavelength visible [blue] light by dermal collagen).[3]

Other lesions that may appear blue on dermoscopy include pigmented BCC, venous lakes, tattoos (traumatic or amateur), haemorrhage, nodular melanoma and melanoma metastases. Experts have asserted that homogenous blue pigmentation is a nonspecific dermoscopic feature seen in many skin tumours.[4] When it is present, histopathology will usually be required to reach a definitive diagnosis except in cases where the patient reports longstanding stability, such as for certain blue naevi. It should be noted that the blue-grey veil of melanoma is less easily seen with polarised dermoscopes.

Eccrine hidrocystomas are benign cystic sweat gland dilatations that arise in adulthood, particularly on periocular skin. They may be single or multiple and may fluctuate with perspiration. The dermoscopic features of eccrine hidrocystomas do not appear to be specific and have only been reported in one publication, in which rapid clearance of well-demarcated homogenous blue cystic structures without diagnostic vascular features is described after injections of botulinum toxin type A.[5] The exact histopathological correlate of the whitish blotches seen in Case 1 is unclear.

In Case 2, the short history of growth and the prior history of invasive melanoma in the vicinity of the lesion were significant clues to melanoma metastasis. This clinical dilemma can be faced in patients with multiple dermal deposits of melanoma in a lower limb in the setting of venous insufficiency, where many nondiagnostic bluish papules may be seen.

Key points

The colour blue is relatively nonspecific when observed dermoscopically. The differential diagnoses of a bluish nodule always include nodular or metastatic melanoma, so a biopsy should be considered unless there has been a long period of stability. A full synthesis of the historical, clinical and dermoscopic features will assist in reaching a diagnosis because melanoma is rapidly progressive. MT

References

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COMPETING INTERESTS: None.