Dermatology Practical & Conceptual

The Importance of Polarized and Non-Polarized Light in the Dermoscopic Assessment of Amelanotic Melanoma: A Teaching Case

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Case Presentation

A 77-year-old woman was referred to our department for a large new growing pink nodule on her left arm (Figure 1A-B). The initial clinical diagnoses included basal cell carcinoma (BCC), dermatofibroma, dermal nevus, and melanoma; however, dermoscopy did not show clear criteria of BCC or other benign lesions. Therefore, urgent excision was deemed necessary to rule out amelanotic melanoma. The histological diagnosis confirmed a nonulcerated 2.8 mm Breslow thickness invasive melanoma (IM). Dermoscopic evaluation of the lesion was performed using both polarized and non-polarized light.

Teaching Point

Under polarized light (PL), on a pinkish background, the lesion exhibited prominent shiny white structures, which made it possible to exclude dermal nevus but not BCC or IM [1]. Conversely, non-polarized light (NPL) highlighted diffuse atypical vessels, mostly linear-irregular and definitely not arborizing, as expected for BCC (Figure 1C-D). NPL cannot show shiny white structures; however, it facilitated a clearer observation of the vascularization as this was not obscured by the white structures themselves, and, in general, is valid in highlighting more superficial structures. As amelanotic melanoma is often a featureless tumor, using dermoscopic devices

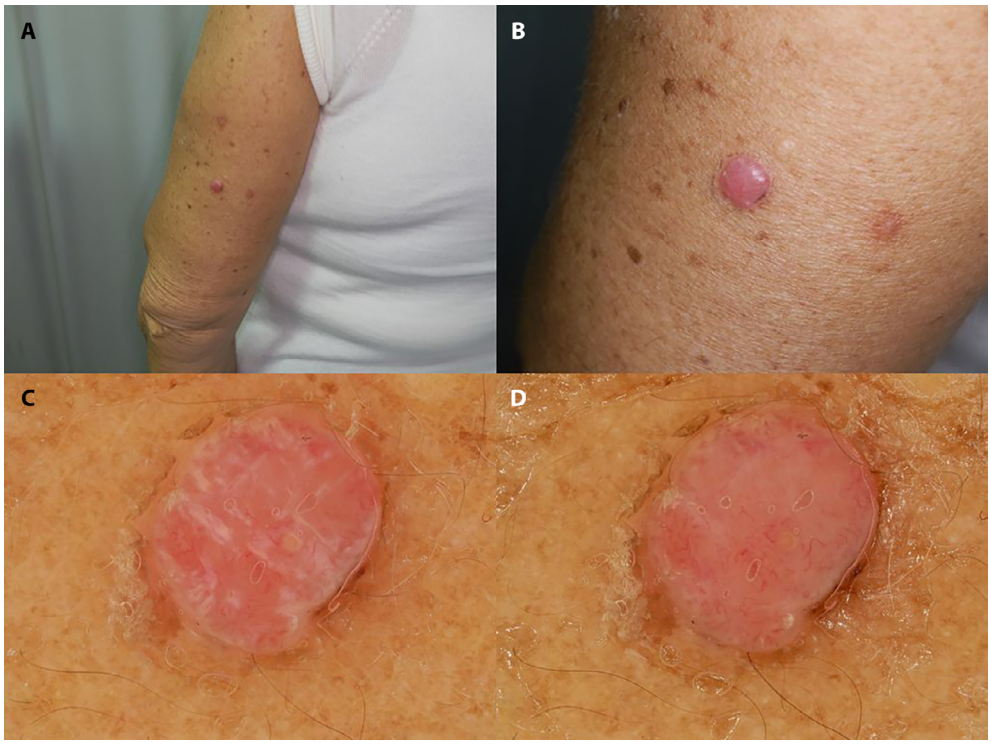

Figure 1. A and B clinical pictures of a pink nodule on sun-damaged skin. C shows dermatoscopic evaluation with polarized light: shiny white structures are the prominent features. D shows dermatoscopic evaluation with non-polarized light:

allowing both the light modalities should be preferred by dermatologists as they increase diagnostic accuracy and the differential diagnosis with clinical imitators.

References

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