Dermatology Practical & Conceptual

Negative Maple Leaf-Like Areas are More Visible in Sub-UV Dermatoscopy – Further Applications and New Perspectives

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Introduction

Superficial basal cell carcinoma (sBCC) represents a frequent yet often under-recognized subtype of BCC, particularly when presenting as subtle erythematous macules on the trunk [1]. Although conventional polarized dermoscopy has significantly improved the diagnostic accuracy of BCC, nonpigmented sBCCs may still pose diagnostic challenges due to their ill-defined margins, minimal pigmentation, and subtle vascular patterns [2]. In this context, our case series highlights the potential added value of sub-ultraviolet (sub-UV, 405 nm) dermoscopy in enhancing the visualization of key dermoscopic features of nonpigmented sBCCs, particularly negative maple leaf-like areas (NMLLAs), erosions, and superficial vascular structures.

Case Presentation

NMLLAs, first described by Imbernon-Moya et al. [3], represent nonpigmented, sharply demarcated structureless white areas corresponding histopathologically to tumor nests located at the dermoepidermal junction. Subsequent imaging studies using line-field confocal optical coherence tomography (LC-OCT) have further demonstrated that these areas correlate with tumor lobules connected to the epidermis and exhibiting the characteristic triad of colors previously reported in dermoscopy [4]. In our observations, NMLLAs appeared consistently more conspicuous under sub-UV illumination compared to conventional dermoscopic light modes (Figure 1A-H, Figure 2A-D). This finding suggests that sub-UV dermoscopy may enhance the optical contrast between tumor nests and surrounding normal skin in non- and hypopigmented sBCCs.

In addition to NMLLAs, erosions, commonly observed in sBCC and sometimes subtle or overlooked under polarized dermoscopy, were more readily identifiable using sub-UV illumination (Figure 1, Figure 2). The loss of the stratum corneum and surface irregularities associated with erosions likely alter the reflectance and absorption patterns of violet-blue light, thereby increasing their conspicuity. This

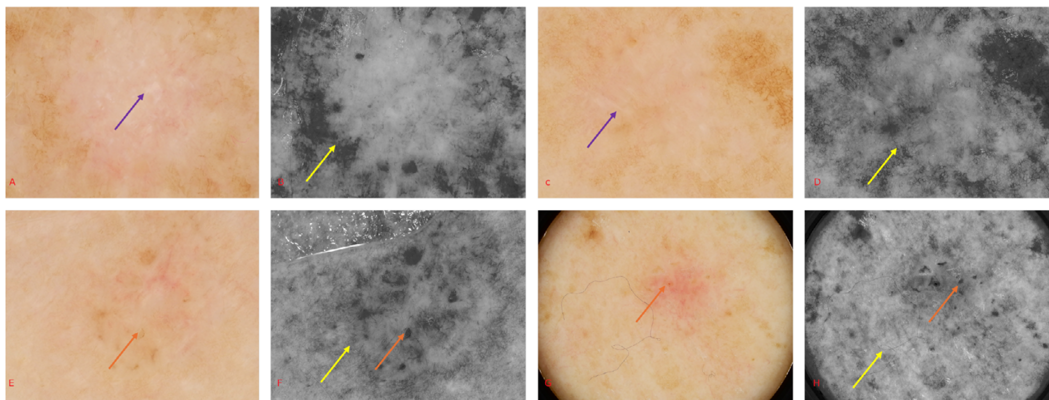

Figure 1. A, B: a superficial BCC present on the elbow, on dermoscopy pink structureless areas are visible with shiny white blotches and strands (purple arrow). Sub UV dermoscopy enhances the vascularity of the tumor, and better delineation is visible (yellow arrow); C, D: superficial BCC on the arm, on dermoscopy linear telangiectasia, pink structureless areas, and shiny white blotches are visible (purple arrow). Sub-UV dermoscopy enhances the vascularity of the tumor, and better delineation is visible (yellow arrow); E, F: superficial BCC on the back, on dermoscopy pink structureless areas and erosions are seen (orange arrow). Sub-UV dermoscopy enhances the visibility of erosions (orange arrow), linear telangiectasia and better delineation of the tumor (yellow arrow); G, H: superficial BCC on the back, on dermoscopy pink structureless areas and erosions are seen (orange arrow). Sub-UV dermoscopy enhances the visibility of erosions (orange arrow), linear telangiectasia, and better delineation of the tumor (yellow arrow).

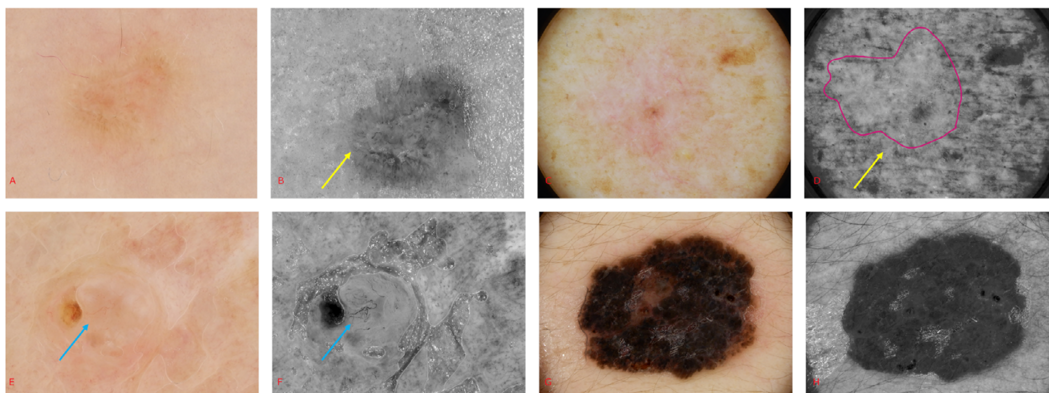

Figure 2. A, B: superficial BCC on the trunk. On dermoscopy pigmented structures, linear telangiectasia and pink structureless areas are visible. Sub UV dermoscopy enhances the linear telangiectasia and better delineation of the tumor.; C, D: superficial BCC on the back, on dermoscopy linear telangiectasia, erosions pink structureless areas, linear telangiectasia, and shiny white blotches are visible. Sub-UV dermoscopy enhances the vascularity of the tumor, erosions and better delineation is visible; E, F: nodular BCC on the elbow, on dermoscopy linear branching vessels, ulceration, and shiny white blotches and strands are seen (blue arrow). Sub-UV dermoscopy enhances the vascularity of the tumor, and ulceration are visible (blue arrow); G, H: heavily pigmented BCC: on dermoscopy brown globules, brown lines converging from a common base are noticed. Sub-UV does not enhance the aforementioned features.

improved detection may be clinically relevant, as erosions represent an important diagnostic clue for sBCC, particularly in lesions lacking classic pigmented or vascular features.

Our observations also suggest that superficial vascular structures may appear more sharply delineated under sub-UV dermoscopy in nonpigmented sBCCs. Hemoglobin exhibits wavelength-dependent absorption characteristics, and shorter wavelengths may accentuate contrast within superficial telangiectatic vessels. Although this finding requires further validation, enhanced visualization of vascular patterns may facilitate the recognition of sBCCs that otherwise appear as nonspecific pink macules.

From a clinical perspective, the superior delineation of tumor margins and diagnostic features has practical implications. sBCCs frequently get misdiagnosed as inflammatory lesions. Accurate identification of trunk-located nonpigmented

sBCCs is essential, as these lesions are often prime candidates for nonsurgical interventions such as topical therapies or photodynamic therapy. Integrating sub-UV dermoscopy as an adjunct to standard modalities may therefore refine lesion selection for these tissue-sparing treatments.

Conclusion

In conclusion, our findings suggest that sub-UV dermoscopy may provide complementary diagnostic information in the evaluation of nonpigmented sBCCs, particularly by enhancing the visibility of NMLLAs, erosions, and superficial vascular structures. Although based on a limited case series, our findings support the concept that wavelength-specific dermoscopic techniques can provide complementary diagnostic information beyond conventional light modes.

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