over-the-counter medications and common household ingredients, the sequelae of *A aurita* stings can be managed effectively, allowing the lesions to clear earlier.

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**High-Dynamic-Range Dermoscopy Imaging and Diagnosis of Hypopigmented Skin Cancers**

Acquiring digital dermoscopy images has become routine practice in the offices of many dermatologists around the world. While the main purposes of acquiring digital dermoscopy images are documentation and short- and long-term monitoring, these images can be enhanced to magnify features or sharpen contrast, making it easier to better visualize dermoscopic structures that are otherwise not as conspicuous. The photographic technique known as high-dynamic-range (HDR) imaging, a digital technique that produces a greater dynamic range (DR) of luminosity across the image than standard imaging, can enhance some dermoscopic structures.

In digital photography, DR describes the ratio between the maximum and minimum of detectable light intensities. It is measured in exposure value (EV) differences (known as stops) between the brightest and darkest parts of the image that show detail. An increase of 1 EV represents a doubling of the light intensity. The DR of the human eye is 6.5 EVs. Modern digital cameras have a DR up to 14 EVs, which is far superior to that of the human eye.

High-dynamic-range images are normally produced by capturing multiple standard photographs at different exposure settings: One image is taken underexposed (too dark), another with normal exposure, and a third overexposed (too bright). These images are subsequently combined to form a single image with a broader tonal range.

Dermoscopy attachments for mobile phones are now readily available and are already widely used for routine documentation purposes. While HDR image acquisition was previously relegated to only high-end digital single-lens-reflex cameras, the new generation of mobile phones is now able to acquire good-quality HDR images. Thus, it is now possible to effortlessly capture HDR images by simply turning on the HDR mode in the camera settings on their mobile phone.

**Report of Case**  To illustrate the usefulness of HDR dermoscopy, we present the case of a patient with a hypopigmented macule of unknown duration located on the back. A standard equipment and techniques as in panel A but with the camera’s HDR mode turned on. The diagnostic dermoscopy criteria such as spoke wheel-like structures and leaflike areas as well as the blood vessels appear more conspicuous than by conventional dermoscopy and can be easily identified.

**Figure.** Conventional and HDR Dermoscopy Images of a Hypopigmented Basal Cell Carcinoma

A, The conventional dermoscopy image was acquired with an iPhone 4S (Apple Inc) with the high-dynamic-range (HDR) mode turned off. The iPhone was attached to DermLite DL3 dermoscope (3Gen) via the DermLite iPhone connector kit. While the diagnostic dermoscopy structures are visible, they not very conspicuous. B, The HDR dermoscopy image was acquired using the same
dermoscopic image of this lesion is seen in the Figure, A, while Figure, B shows the HDR dermoscopic image of the same lesion. The pigmented structures at the periphery are more conspicuous in HDR mode and can now easily be identified as spoke wheel-like structures and leaf-like areas. The blood vessels are also rendered more conspicuous and can now be easily identified as arborizing telangiectasia. Furthermore, the crystalline structures in the center of the lesion have become more noticeable. While the diagnosis of basal cell carcinoma can be made on the basis of conventional dermoscopy (Figure, A), it is more obvious in the dermoscopic HDR image (Figure, B).

Discussion High-dynamic-range dermoscopy images of equivocal hypopigmented lesions have the potential to facilitate accurate dermoscopic diagnosis by making some dermoscopic structures appear more conspicuous. This may be particularly helpful for novice dermoscopy trainees. In conclusion, HDR dermoscopy imaging can now easily be acquired with many mobile phone cameras attached to a dermoscope, and these images can serve to augment the physician's vision, leading to better diagnostic accuracy.

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COMMENT & RESPONSE

The Cause of Follicular Spicules in Multiple Myeloma

To the Editor Hyperkeratotic spicules may develop as a paraneplastic syndrome of multiple myeloma. These follicular spicules in multiple myeloma (FSMM) are composed of precipitates of monoclonal dysproteins identical to the serum protein found in these patients. Light microscopy of the affected follicular epithelium shows intercellular deposits of eosinophilic material that has been identified as IgG by direct immunofluorescence. Trichodysplasia spinulosa (TS) is a distinctive disorder that also presents with follicular spicules in the setting of immunosuppression. There is increasing evidence that the TS polyomavirus (TSPyV) is involved in the pathogenesis of TS.

Based on the clinical similarity between FSMM and TS, van Boheemen and colleagues assessed whether FSMM had a viral cause. After the findings of TSPyV-specific polymerase chain reaction (PCR) and rolling circle amplification proved negative, a sensitive deep-sequencing approach identified sequences from Merkel cell polyomavirus (MCPyV); PCR confirmed that the virus was present at low copy numbers (about 0.1 copies/cell). Based on these findings, the researchers concluded that MCPyV might have a role in the disease. However, MCPyV can frequently be detected in skin swabs from healthy individuals. Thus, the detection of MCPyV at low copy numbers in this case of FSMM could be the result of its presence as a part of the normal skin flora rather than as a specific driver of disease.

In contrast to the low copy numbers of MCPyV detected by van Boheemen et al in their FSMM case, TSPyV is found at an average of about 10^6 copies/cell in cases of TS. Moreover, while ultrastructural analyses in cases of FSMM have consistently failed to identify viral particles in affected tissue, the overwhelming majority of cases of TS in which electron microscopy has been attempted do show evidence of viral particles.

van Boheemen et al also argue that the responsiveness of the eruption to cidofovir gel supports a viral role for FSMM. However, the concurrent treatment of the patient’s multiple myeloma with systemic agents mitigates any conclusions regarding cidofovir’s direct effects.

Finally, in a distinct case of FSMM, our research group was unable to identify the presence of TSPyV or MCPyV using multiple primer sets.

The majority of existing literature supports the follicular accumulation of an immunoglobulin dysprotein rather than a virus as the cause of FSMM. In the absence of compelling evidence for a virus in FSMM, patients with FSMM should be treated systemically for their multiple myeloma and topically with keratolytics.

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