

Wide area digital dermoscopy



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Key words: dermoscopy; image enhancement.

TECHNICAL CHALLENGE

Digital dermoscopy is a useful tool in dermatology, but the evaluation of large lesions is limited by the diameter of the dermatoscope lenses, thus requiring analyses of multiple separate photographs. We suggest the use of a digital image montage technique to create wide area digital dermoscopy (WADD) images, which provides a high-definition single-image broad dermoscopic view (Fig 1).

SOLUTION

To create a WADD image, it is first necessary to use a handheld dermatoscope (magnification, $\times 10$; polarized or nonpolarized) attached to a digital camera and a computer with Adobe Photoshop CC software (version 19.1.6, Adobe Systems Inc, San Jose, CA). The technical steps, which are illustrated in Video 1, are as follows: (1) dermoscopic image acquisition (by sequential acquisition of multiple images, the entire lesion area is covered, with each image area having an overlap of 20%-30% with the adjacent images); (2) image merging (Photoshop software is opened; the File menu is selected, and the Automate and Photomerge options are selected; next, in Layout, Reposition is selected, the acquired dermoscopic images are added, and OK is clicked to start, after which the WADD image that has been created can be exported to any file format); and (3) image viewing (any built-in Windows or Mac image visualization software can be used as a WADD image viewer). Dermatologists can apply the WADD concept to a variety of situations, such as follow-up of congenital melanocytic nevi and preoperative dermoscopic mapping of skin neoplasms. The limitation of this technique is the scanning of ultralarge lesions because the overlap required in the first technical step can be challenging. In the future, dedicated and user-friendly software can be developed to improve the method.

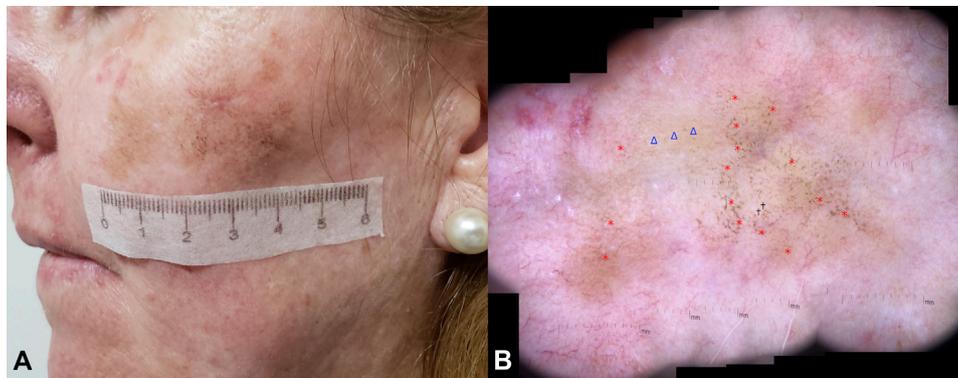


Fig 1. A, Lentigo maligna. An extensive and poorly delimited lesion on the left cheek (45×30 mm). **B,** Wide area digital dermoscopy findings of an annular-granular pattern (red asterisks) and an area of a circle within a circle (black daggers). Note the extension of the lesion to the medial cheek with a brown pseudonetwork (blue triangles).

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Funding sources: None.

Conflicts of interest: None disclosed.

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J Am Acad Dermatol 2019;80:e153.

0190-9622/\$36.00

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<https://doi.org/10.1016/j.jaad.2018.12.019>