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213 The Impact of In Vivo Reflectance Confocal Microscopy for the Diagnostic Accuracy of Melanoma and Equivocal Melanocytic Lesions

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ABSTRACT

In vivo confocal reflectance microscopy recently showed promising results for melanoma (MM) diagnosis on a limited series. The aim of the study was to evaluate the sensitivity and specificity of confocal features for the diagnosis of MM 351 equivocal melanocytic lesions (136 MMs and 215 nevi) were evaluated for 37 confocal features by two blinded expert observers. Chi2 test, multivariate discriminant analysis and binary logistic regression were performed for the identification of the significant features and for testing newly created diagnostic models. Melanomas were mostly characterized by epidermal disarray and pagetoid cells in the epidermis, non-edged papillae, and cellular atypia at the junction, and atypical nests and bright nucleated cells in the upper dermis. On the other hand, regular dermal-epidermal architecture, and absence of pagetoid infiltration and atypical cells were suggestive of benign lesions. Five out of 136 melanomas, with mildly atypical melanocytes and occasional pagetoid cells at histopathology, were not diagnosed by confocal microscopy. Nevertheless, new diagnostic models showed no significant improvement compared with the previously proposed confocal microscopy algorithm. Owing to the visualization of cellular aspects, confocal microscopy seems useful for second level examination of clinically and dermoscopically equivocal lesions.