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137 Nevomelanocytic atypia detection by in vivo reflectance confocal microscopy.

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ABSTRACT

BACKGROUND AND OBJECTIVE: In vivo reflectance confocal microscopy (RCM) is a promising novel technology for non-invasive early diagnostics of cutaneous melanoma. However, the possibility to detect melanocytic atypia in nevi by means of in vivo RCM remains unknown. The aim of the study was to evaluate the significance of in vivo RCM features of melanocytic atypia for the diagnosis of melanocytic nevi, dysplastic nevi and cutaneous melanoma. **MATERIALS AND METHODS:** A total of 138 melanocytic skin lesions comprising 25 melanocytic nevi, 69 dysplastic nevi and 44 melanomas were analyzed by means of dermoscopy, in vivo RCM and routine histopathology. In vivo RCM images were analyzed for the arrangement of keratinocytes in epidermis, pagetoid cells and junctional melanocytic nests and correlated refractivity aspects of nests with histopathology. **RESULTS:** Separately and all together taken the in vivo RCM features of melanocytic atypia were significant in differential diagnosis of benign and malignant melanocytic skin lesions, though none of the features was significant in discriminating nevi without cytologic atypia of dysplastic nevi. In vivo RCM feature of dense cell clusters corresponded with melanin containing nevomelanocytes on histopathology though exact correspondence of non-homogeneous and atypical sparse cell clusters remained questionable. **CONCLUSIONS:** Nevus with histopathologically confirmed nevomelanocytic atypia (dysplastic nevus) could not be distinguished from nevus without atypia using analyzed in vivo RCM features of melanocytic atypia. More accurate diagnostics by means of in vivo RCM needs further investigation on reflectance of single and nested cutaneous melanocytes in benign and malignant skin lesions.