

Medical > In Vivo > Melanoma & Pigmented Lesion Research

98

Paired comparison of the sensitivity and specificity of multispectral digital skin lesion analysis and reflectance confocal microscopy in the detection of melanoma in vivo: A cross-sectional study.

Song E, Grant-Kels JM, Swede H, D'Antonio JL, Lachance A, Dadras SS, Kristjansson AK, Ferenczi K, Makkar HS, Rothe MJ. J Am Acad Dermatol. 2016 Dec;75(6):1187-1192.e2. doi: 10.1016/j.jaad.2016.07.022

ABSTRACT

BACKGROUND: Several technologies have been developed to aid dermatologists in the detection of melanoma in vivo including dermoscopy, multispectral digital skin lesion analysis (MDSLA), and reflectance confocal microscopy (RCM). To our knowledge, there have been no studies directly comparing MDSLA and RCM. **OBJECTIVE:** We conducted a repeated measures analysis comparing the sensitivity and specificity of MDSLA and RCM in the detection of melanoma (n = 55 lesions from 36 patients). **METHODS:** Study patients (n = 36) with atypical-appearing pigmented lesions (n = 55) underwent imaging by both RCM and MDSLA. Lesions were biopsied and analyzed by histopathology. **RESULTS:** RCM exhibited superior test metrics (P = .001, McNemar test) compared with MDSLA. Respectively, sensitivity measures were 85.7% and 71.4%, and specificity rates were 66.7% and 25.0%. **LIMITATIONS:** The sample size was relatively small and was collected from only one dermatologist's patient base; there was some degree of dermatopathologist interobserver variability; and only one confocalist performed the RCM image evaluations. **CONCLUSION:** RCM is a useful adjunct during clinical assessment of in vivo lesions suspicious for melanoma or those requiring re-excision because of high level of dysplasia or having features consistent with an atypical melanocytic nevus with severe cytologic atypia. Copyright © 2016 American Academy of Dermatology, Inc. Published by Elsevier Inc. All rights reserved. **KEYWORDS:** dermoscopy; melanoma; multispectral digital skin lesion analysis; noninvasive imaging; reflectance confocal microscopy PMID:27693007 DOI:10.1016/j.jaad.2016.07.022