Non-invasive diagnosis of pink basal cell carcinoma: how much can we rely on dermoscopy and reflectance confocal microscopy?

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ABSTRACT
BACKGROUND: Non-pigmented 'pink' cutaneous lesions in differential diagnosis with basal cell carcinoma may present a challenge for clinicians. Our objective was to determine the potential improvement of diagnostic accuracy using combined dermoscopy-reflectance confocal microscopy (RCM) image evaluation.

METHODS: Two hundred and sixty clinically equivocal 'pink' cutaneous lesions were evaluated retrospectively. Reader accuracy was tested with dermoscopy images only vs. RCM and combined dermoscopy-RCM images.

RESULTS: Out of 260 equivocal 'pink' cutaneous lesions, there were 114 basal cell carcinomas within a total of 140 malignancies that included 12 melanomas, 13 squamous cell carcinomas, and 1 other malignancy type. Dermoscopy only evaluation resulted in an overall sensitivity of 85.1% and specificity of 92.4%, resulting in a positive predictive value (PPV) of 89.8%, with 1 of 12 melanomas misdiagnosed. RCM evaluation resulted in an overall sensitivity of 85.1% and specificity of 93.8%, resulting in a PPV of 91.5%, with no melanomas misdiagnosed. Combined dermoscopy-RCM evaluation resulted in an overall sensitivity of 77.2% and specificity of 96.6%, resulting in a PPV of 94.6%.

CONCLUSION: The combination of dermoscopy-RCM evaluation significantly improves the accuracy and safety threshold in equivocal 'pink' cutaneous lesions in the differential diagnosis of basal cell carcinoma. © 2015 John Wiley & Sons A/S. Published by John Wiley & Sons Ltd. KEYWORDS: basal cell carcinoma; dermoscopy; melanoma; reflectance confocal microscopy PMID: 26338448 DOI: 10.1111/srt.12254