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183 | First experiences using reflectance confocal microscopy on equivocal skin lesions in Queensland.

Curchin CE, Wurm EM, Lambie DLj, Longo C, Pellacani G, Soyer HP.; Australas J Dermatol. 2011 May;52(2):89-97. doi: 10.1111/j.1440-0960.2011.00756.x.

ABSTRACT

BACKGROUND/OBJECTIVES: Reflectance confocal microscopy (RCM) is a non-invasive method of imaging human skin in vivo. The purpose of this study was to observe the experience of using RCM on equivocal skin lesions in a tertiary clinical setting in Queensland.

METHODS: Fifty equivocal lesions on 42 patients were imaged using a reflectance confocal microscope immediately prior to being excised. The images were then analysed blind to the histopathological diagnosis. The experience and problems encountered when using RCM on skin lesions for the first time was also observed.

RESULTS: On RCM analysis 12/13 melanomas (92.3% sensitivity, 75% specificity), 19/22 benign naevi (86% sensitivity, 95% specificity), 6/9 basal cell carcinomas (66.7% sensitivity, 100% specificity) and 6/6 squamous cell carcinomas and its precursors (100% sensitivity, 75% specificity) were diagnosed correctly when using histology as the gold standard. We identified three common problems that affected image quality: object artefacts; positioning artefacts; and movement artefacts.

CONCLUSIONS: Using simple techniques we found that common RCM features were readily identifiable and common artefacts could be minimized, making RCM a useful tool to aid the diagnosis of equivocal skin lesions in a clinical setting.