

## Overview

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### Improvement of diagnostic confidence and management of equivocal skin lesions by integration of reflectance confocal microscopy in daily practice: prospective study in two referral skin cancer centers.

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#### ABSTRACT

**BACKGROUND:** Reflectance confocal microscopy (RCM) allows accurate noninvasive in-vivo diagnosis for skin cancer. However, its impact in daily routine on the physician's diagnostic confidence and management is unknown. **OBJECTIVES:** We sought to assess the physician's diagnostic confidence and management before and after RCM of equivocal skin lesions. **METHODS:** Prospective, two-center, observational study. During clinical practice, seven dermatologists recorded their diagnostic confidence level, diagnosis and management before and after RCM of clinically/dermoscopically-equivocal lesions concerning for skin cancer. We also evaluated the diagnostic accuracy before and after RCM. **RESULTS:** We included 272 consecutive lesions from 226 individuals (mean age 53.5 years). Diagnostic confidence increased from 6.2 to 8.1 after RCM ( $p < 0.001$ ), both when RCM reassured or changed the diagnosis. Lesion management changed in 33.5% cases after RCM, (to observation  $n=51$ ; to biopsy/excision  $n=31$ ). After RCM, the number needed to excise was 1.2. Sensitivity for malignancy before and after RCM was 78.2% and 85.1%, respectively. Specificity before and after RCM was 78.8 % and 80%, respectively. **LIMITATIONS:** Small sample size, real-life environment, different expertise among RCM users. **CONCLUSION:** Physician's diagnostic confidence and accuracy increases after RCM when evaluating equivocal tumors, frequently resulting in management changes, while keeping high diagnostic accuracy. Copyright © 2019. Published by Elsevier Inc. **KEYWORDS:** basal cell carcinoma; diagnostic accuracy; diagnostic confidence level; management; melanoma; reflectance confocal microscopy; skin cancer PMID:31202873 DOI:10.1016/j.jaad.2019.05.101