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Reflectance confocal microscopy as a second-level examination in skin oncology improves diagnostic accuracy and saves unnecessary excisions: a longitudinal prospective study.

Pellacani G, Pepe P, Casari A, Longo C., Br J Dermatol. 2014 May 29. doi: 10.1111/bjd.13148.

ABSTRACT

BACKGROUND: Dermatoscopy increases both sensitivity and specificity for melanoma diagnosis. Reflectance confocal microscopy (RCM) is a non invasive technique which complements dermatoscopy, in the evaluation of equivocal lesions at cellular resolution. **OBJECTIVES:** The purpose of the study was to prospectively determine the potential impact of confocal microscopy when implemented in a routine melanoma diagnosis workflow. **PATIENTS AND METHODS:** Patients referred to a single Melanoma Clinic were consecutively enrolled. At dermatoscopy, patients were referred to one of the following pathways: 1- No further examination; 2- RCM examination: atypical lesion/s were referred for either: i) RCM Documentation (lesions with consistent suspicious clinical/dermatoscopic criteria, already qualified and scheduled for surgical excision) or ii) RCM Consultation for equivocal lesions, where RCM diagnosis would determine lesion definite outcome (excision or digital follow-up).

RESULTS: RCM examination was performed for 41% of 1005 patients enrolled. In 2/3 of these cases RCM influenced the lesion outcome. The systematic application of RCM for equivocal lesions saved over 50% benign lesions from unnecessary excision. The number needed to excise (NNE) a melanoma was 6.8 with RCM examination, compared to a hypothetical 14.6 without RCM evaluation.

CONCLUSION: RCM as a second level -level examination to dermatoscopy proved to be highly accurate in diagnosis and reduced the number of unnecessary excisions. Improved accuracy, considering that RCM enabled the detection of the 6 melanomas (2%) in the group of 308 lesions eligible for follow-up, also minimizes the risk of referring a melanoma to digital dermatoscopy monitoring, and potentially losing the patient to follow-up.