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A meta-analysis of reflectance confocal microscopy for the diagnosis of malignant skin tumours.

Xiong YD¹, Ma S¹, Li X², Zhong X¹, Duan C³, Chen Q¹. *J Eur Acad Dermatol Venereol.* 2016 May 27. doi: 10.1111/jdv.13712.

ABSTRACT

Early diagnosis is extremely important for treatment and prognosis of skin cancer. Reflectance confocal microscopy (RCM) is a recently developed technique used to diagnose skin cancer. This meta-analysis was carried out to assess the accuracy of RCM for the diagnosis of malignant skin tumours. We conducted a systematic literature search of EMBASE, PubMed, the Cochrane Library and Web of Science database for relevant articles in English published up to 24 December 2015. The quality of the included studies was assessed using the QUADAS-2 tool. Statistical analyses were conducted using the software Meta-Disc version 1.4 and STATA version 12.0. A total of 21 studies involving 3108 patients with a total of 3602 lesions were included in the per-lesion analysis. The corresponding pooled results for sensitivity and specificity were 93.6% (95% CI: 0.92-0.95) and 82.7% (95% CI: 0.81-0.84) respectively. Positive likelihood ratio and negative likelihood ratio were 5.84 (95% CI: 4.27-7.98) and 0.08 (95% CI: 0.07-0.10) respectively. Subgroup analysis showed that RCM had a sensitivity of 92.7% (95% CI: 0.90-0.95) and a specificity of 78.3% (95% CI: 0.76-0.81) for detecting melanoma. The pooled sensitivity and specificity of RCM for detecting basal cell carcinoma were 91.7% (95% CI: 0.87-0.95) and 91.3% (95% CI: 0.94-0.96) respectively. RCM is a valid method of identifying malignant skin tumours accurately. © 2016 European Academy of Dermatology and Venereology. PMID:27230832