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### The diagnostic accuracy of dermoscopy and reflectance confocal microscopy for amelanotic/hypomelanotic melanoma: a systematic review and meta-analysis.

Lan J, Wen J, Cao S, Yin T, Jiang B, Lou Y, Zhu J, An X, Suo H, Li D, Zhang Y, Tao J. *Br J Dermatol.* 2019 Nov 20. doi: 10.1111/bjd.18722.

#### ABSTRACT

**BACKGROUND:** Dermoscopy and reflectance confocal microscopy (RCM) are noninvasive techniques for the diagnosis of skin lesions. Their accuracy for amelanotic/hypomelanotic melanoma (AHM) has not been systematically studied. **OBJECTIVES:** We aimed to investigate systematically the accuracy of dermoscopy and RCM and to compare the accuracy between them for diagnosing AHM. **METHODS:** We searched the PubMed, Web of Science, Embase and Cochrane Library databases for eligible studies about dermoscopy, RCM and AHM from inception to 31 June 2019. The quality of the studies was assessed with the Quality Assessment of Diagnostic Accuracy Studies tool. The pooled results were calculated using a random effects model in Stata 14, Meta-DiSc, RevMan 5.3 and SAS 9.4. We also explored the sources of heterogeneity by sensitivity analysis. **RESULTS:** Seven studies with a total of 1111 lesions were included. The pooled sensitivity and specificity of dermoscopy for the diagnosis of AHM were 61% [95% confidence interval (CI) 0.37-0.81] and 90% (95% CI 0.74-0.97), respectively. The corresponding respective values of RCM for the diagnosis of AHM were 67% (95% CI 0.51-0.81) and 89% (95% CI 0.86-0.92). In three studies including the performance of both RCM and dermoscopy, the relative diagnostic odds ratio of RCM over dermoscopy was 4.69 (95% CI 0.81-27.3) ( $P=0.068$ ). **CONCLUSIONS:** Our study demonstrates that both dermoscopy and RCM offer good diagnostic accuracy with high specificity and moderate sensitivity in the diagnosis of AHM. RCM is more accurate than dermoscopy in diagnosing AHM but the comparison needs to be confirmed.

What's already known about this topic? Amelanotic/hypomelanotic melanoma (AHM) is the most lethal skin cancer. The diagnosis of AHM is a great challenge because of its nonspecific clinical manifestation. Early diagnosis can improve the prognosis. Dermoscopy and reflectance confocal microscopy (RCM) have high diagnostic accuracy for pigmented melanoma. What does this study add? Both dermoscopy and RCM offer good diagnostic accuracy with high specificity and moderate sensitivity for AHM. RCM might be more accurate than dermoscopy for diagnosis of AHM. More research on the diagnostic accuracy of dermoscopy and RCM for AHM is required in support of these findings. © 2019 British Association of Dermatologists.

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