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Reflectance confocal microscopy in the diagnosis of partially and completely amelanotic melanoma: report on seven cases.

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ABSTRACT

Background: The clinical diagnosis of amelanotic melanoma is often challenging, because the classical clinical and dermoscopic features of pigmented melanoma are usually missing. The reflectance confocal microscopy (RCM) offers an additional possibility of an in vivo diagnosis of both pigmented and amelanotic melanoma lesions.

Objectives: To test the value of RCM in vivo in the preoperative prediction of melanoma lesions lacking significant pigment and to compare the results with the evaluation by dermoscopy and histopathology.

Methods: We examined seven patients with the clinically uncertain differential diagnosis of partially or completely amelanotic melanoma by RCM and dermoscopy prior to surgical excision of the lesions according to the previously suggested dermoscopy algorithm and RCM score for melanoma. The following RCM features were evaluated: major criteria scored +2 (non-edged papillae, cytological atypia at the dermo-epidermal junction) and minor criteria +1 (roundish pagetoid cells, widespread pagetoid infiltration, nucleated cells within dermal papillae, cerebriform cell clusters). The dermoscopic evaluation included the following criteria: polymorphous vessels, dotted and linear irregular vessels, hairpin vessels, pink-erythematous colour, milky red areas, irregularly shaped depigmentation, blue-grey dots and subtle pigmentation.

Results: The preoperative in vivo RCM analysis revealed common features of melanoma also found in pigmented melanoma lesions. All lesions showed a score above three in the applied RCM algorithm which was proposed earlier as the threshold for malignancy. In dermoscopy, five of seven lesions showed characteristic vascular changes.

Conclusion: In vivo RCM is a valuable tool in the preoperative diagnosis of partially and completely amelanotic tumours suspicious for melanoma in addition to dermoscopic evaluation.