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Preliminary evaluation of benign vascular lesions using in vivo reflectance confocal microscopy.

Astner S, González S, Cuevas J, Röwert-Huber J, Sterry W, Stockfleth E, Ulrich M.; Dermatol Surg. 2010 Jul;36(7):1099-110.

ABSTRACT

BACKGROUND: Reflectance confocal microscopy (RCM) is a novel noninvasive imaging technique for in vivo evaluation of cutaneous lesions at near-histologic resolution. The applicability of RCM for various neoplastic and inflammatory skin diseases has been shown, but a descriptive evaluation of different vascular lesions has not yet been performed.

OBJECTIVES: To define specific RCM criteria for congenital and acquired vascular lesions and to determine whether these criteria may assist in their differential diagnosis.

MATERIALS AND METHODS: Seven patients with a clinical diagnosis of vascular lesion, including spider angioma, venous lake, cherry angioma, pyogenic granuloma, port wine stain, angiokeratoma, and lymphangioma, participated in this study. Skin sites were systematically analyzed using RCM, and biopsy was obtained for clinically indeterminate lesions.

RESULTS: For each entity, characteristic RCM criteria could be identified and selected parameters correlated well to established histopathologic findings. The most relevant criteria included the diameter of the vessels and degree of vascular tortuosity or dilation. Additional findings such as flow velocity, inflammation, and disruption of the epidermal architecture could be documented.

CONCLUSION: The findings of this preliminary evaluation indicate that RCM may aid in the noninvasive characterization of inflammatory, proliferative, and ectatic vascular malformations in vivo.