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Concordance between in vivo reflectance confocal microscopy and histology in the evaluation of plaque psoriasis.

Ardigo M, Cota C, Berardesca E, González S.; J Eur Acad Dermatol Venereol. 2009 Jun;23(6):660-7.

ABSTRACT

BACKGROUND: Psoriasis is a common skin inflammatory disease that affects 2% of the general population. Plaque psoriasis (PP) is its most common variant. In vivo reflectance confocal microscopy (RCM) is a non-invasive, reproducible imaging technique that has proven to give useful information for morphometric evaluation of several inflammatory skin conditions, such as acute contact dermatitis and discoid lupus.

OBJECTIVE: This study aimed to define the in vivo RCM features of PP and to analyse correlations with histopathologic findings.

METHODS: Psoriatic lesions from 36 patients with an established diagnosis of PP were selected for RCM evaluation. Subsequently, a 4-mm punch biopsy specimen of the same imaged areas was taken for histopathologic examination. Normal skin from similar topographic areas of 12 healthy volunteers was evaluated as control samples.

RESULTS: Several RCM features of psoriasis were identified and shown to correlate well with histopathologic evaluation. In > 90% of the cases, RCM revealed hyperkeratosis, parakeratosis, reduced or absent granular layer, papillomatosis and dilated blood vessels. Acanthosis was observed in psoriasis cases, with thickness ranging from 75 to 300 microm, compared to normal skin, which ranged from 60 to 90 microm. The diameter of the dermal papillae was also enlarged (> 100 microm) compared to what was observed in normal skin (> 80 microm).

CONCLUSION: RCM seems to be useful for microscopic evaluation of PP features, and offers a good correlation with histopathologic findings; it thus constitutes a promising adjuvant tool for non-invasive microscopic diagnosis and for therapeutic follow-up.