Evaluation of the response to treatment of psoriasis vulgaris with reflectance confocal microscopy.


ABSTRACT

BACKGROUND/OBJECTIVE: Reflectance confocal microscopy (RCM) is a noninvasive, objective imaging technique that provides in vivo, high-resolution skin imaging. We sought to assess epidermal and dermal changes associated with the psoriasis and its treatment with RCM before the treatment and at weeks 4 and 8 of the treatment.

MATERIAL AND METHODS: This is an investigator-blinded, internal-controlled, follow-up study. A total of 25 patients with plaque psoriasis were included in the study. The RCM evaluation criteria were defined on the basis of the histopathological diagnostic criteria for psoriasis. The clinical severity of the psoriasis was evaluated using the Psoriasis Area Severity Index (PASI).

RESULTS: The RCM findings which were correlated with the PASI can be used to follow up the patient's response to treatment have been identified as follows: the acanthosis, the number of spongiotic sites, the number of regular/irregular honeycomb-like sites, the number of epidermal inflammatory cells, the number of focal abscesses, the total epidermal thickness, the number of nonedge dermal papillae, the length of the papillary dermis, the number of dermal inflammatory cells, and the vascularization in the papillary dermis (P < 0.05).

CONCLUSION: This is the first study with a large group of patients to perform a noninvasive assessment with RCM of the response of psoriasis to different treatments: phototherapy, systemic and topical treatment. Micrometric and morphometric changes occurring in the psoriatic tissue during the 8-week treatment period were identified by in vivo RCM in a noninvasive manner. RCM is capable of monitoring of treatment response in psoriasis.