Relationship between Histological and Clinical Course of Psoriasis: A Pilot Investigation by Reflectance Confocal Microscopy during Goeckerman Treatment.


ABSTRACT
Alterations of the skin microvasculature are known to play an important role in the development and maintenance of psoriatic skin lesions. In this study, we investigated lesional skin in 11 psoriatic patients during a modified Goeckerman treatment using reflectance confocal microscopy (RCM) to study the relationship between clinical clearance and histological normalization of psoriatic skin and the significance of histological abnormalities on the course of disease. The treatment regimen resulted in a significant reduction of the Psoriasis Area and Severity Index (PASI) as well as capillary and papillary diameters ($p < 0.0001$). The capillary and papillary diameters were still enlarged when compared to those in normal skin ($p < 0.001$). Capillary and papillary diameters correlated with each other prior to and after treatment (correlation coefficient = 0.63 and 0.64, $p = 0.01$ and 0.002, respectively) but not with the PASI. Capillary and papillary diameters after treatment and percentage reduction of the PASI during treatment seemed to be better predictors for the clinical course of relapse than the PASI after treatment. These findings make the subclinical changes of psoriatic skin vessels and dermal papillae a legitimate target for treatment. Further investigations of a large group of patients are needed to evaluate the potential of RCM findings as successor of the PASI in the monitoring of psoriasis.