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In vivo monitoring of topical therapy for acne with reflectance confocal microscopy.

Manfredini M, Greco M, Farnetani F, Mazzaglia G, Ciardo S, Bettoli V, Virgili A, Pellacani G. Skin Res Technol. 2016 Jun 8. doi: 10.1111/srt.12298.

ABSTRACT

BACKGROUND: Acne vulgaris is a common disease of the pilosebaceous unit. The aim of the study was to evaluate compartment-specific treatment action through the microscopic non-invasive imaging of skin changes. **METHODS:** Mild-moderate acne patients, that were prescribed a topical anti-acne product, were followed by clinical and reflectance confocal microscopy (RCM) imaging every 14 days to 6 weeks. Mean and standard deviation of the scores were analyzed for each time point. **RESULTS:** After 2 weeks, the RCM count of papules/pustules and the RCM scores of exocytosis and dermal inflammation, decreased substantially. After 4 weeks, the RCM number of comedos was reduced. After 6 weeks, the number of regular follicles increased, while the infundibula with thickened bright border decreased significantly. **CONCLUSION:** The progressive reduction in the clinical scores was correlated with the improvement of the RCM parameters. RCM study of acne skin showed a different timing for inflammatory and hyperkeratotic components to achieve a significant reduction during topical therapy with the association of retinoid and antibacterial molecules. The microscopic changes observed showed the regularization of the skin and the improvement of acne related features. RCM may represent a useful tool for the objective assessment of treatment efficacy and individual response evaluation. © 2016 John Wiley & Sons A/S. Published by John Wiley & Sons Ltd. **KEYWORDS:** acne; noninvasive; reflectance confocal microscopy; topical therapy PMID:27273850