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Reflectance confocal microscopy for noninvasive monitoring of therapy and detection of subclinical actinic keratoses.

Ulrich M, Krueger-Corcoran D, Roewert-Huber J, Sterry W, Stockfleth E, Astner S.; Dermatology. 2010;220(1):15-24 DOI: 10.1159/000254893. 2009

ABSTRACT

BACKGROUND: Actinic keratoses (AK) represent cutaneous carcinoma in situ and have previously been evaluated by reflectance confocal microscopy (RCM). Treatment of AK with imiquimod (IMIQ) 5% cream has been shown to 'highlight' subclinical lesions.

OBJECTIVE: The aim of this study was to test the applicability of RCM for noninvasive monitoring of actinic field cancerization and detection of subclinical AK.

SUBJECTS AND METHODS: AK and surrounding skin sites with no apparent AK of 11 volunteers were selected for imaging and subsequently classified as 'clinical' and 'subclinical' AK. IMIQ was used 3 times weekly for 4 weeks.

RESULTS: RCM was able to detect morphologic features of AK in both clinical and subclinical AK; features were more pronounced in clinical lesions. The immunomodulatory response induced by IMIQ was visualized by RCM.

CONCLUSION: Our findings indicate that RCM allows noninvasive monitoring of treatment response in vivo and permits early detection of subclinical AK, thus substantiating the incentive for therapy.