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### Non-invasive diagnosis and monitoring of actinic cheilitis with reflectance confocal microscopy

Ulrich M, González S, Lange-Asschenfeldt B, Roewert-Huber J, Sterry W, Stockfleth E, Astner S., *JEADV*. 2010. DOI: 10.1111/j.1468-3083.2010.03777.x

#### ABSTRACT

**Background:** Actinic cheilitis (AC) represents the equivalent of actinic keratosis on the lip. Various treatment modalities are available and the efficacy of diclofenac in hyaluronic acid has recently been described. Reflectance confocal microscopy (RCM) is a non-invasive imaging technique which has recently been applied for the diagnosis of actinic keratoses. Herein, we describe the applicability of RCM for the diagnosis of AC and for monitoring of treatment response of AC to diclofenac in hyaluronic acid.

**Methods:** Ten Caucasian patients with clinical suspicion for AC were included in this study. To obtain a noninvasive diagnosis, RCM was performed at baseline, followed by biopsy and respective confocal-histopathological correlation. Six patients with a histological diagnosis of AC were treated with diclofenac in hyaluronic acid, whereby monitoring was performed by RCM.

**Results:** Reflectance confocal microscopy was able to correctly identify 6 / 7 cases of AC and 3 / 3 cases of benign lesions. The most important RCM criteria for diagnosis of AC were cellular atypia at the stratum spinosum and granulosum with atypical honeycomb pattern. One patient with AC was misclassified as inflammatory cheilitis by RCM as it showed marked inflammatory response and lacked clear signs of cellular atypia on RCM imaging. Following topical treatment with diclofenac gel, 5 / 6 patients (83%) showed a good treatment response with regression of dysplasia on consecutive RCM examination.

**Conclusions:** Reflectance confocal microscopy is a promising tool for the non-invasive diagnosis and monitoring of actinic cheilitis. However, marked inflammation represents a potential diagnostic pitfall. In this regard, biopsy should be performed in doubtful cases.