21 Confocal Microscopy and Lentigo Maligna: An in vivo Pilot Study for the Assessment of Response to Imiquimod Therapy.

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ABSTRACT

BACKGROUND:Reflectance confocal microscopy (RCM) is a noninvasive technique that provides real-time in vivo images of the epidermal layer. Imiquimod has been recommended as an alternative treatment in lentigo maligna (LM) when surgical excision is not the treatment of choice. In the present study we compare the results of in vivo RCM to the histopathological examination before and after treatment of LM with topical imiquimod. METHODS:Thirty-four patients with confirmed LM were included. Imiquimod 5% was applied until a weeping erosion appeared in the LM-affected skin. Evaluation was performed by clinical examination, dermatoscopy, histopathology and RCM. RESULTS:During the follow-up, 27 of 34 patients (79.42%) demonstrated a total tumor clearance by imiquimod treatment. In the treated area, a significant decrease of atypical cells was detected using RCM ($p < 0.0001$). Furthermore, a significant positive correlation in the detected atypical cells was shown using confocal microscopy and histology ($p = 0.0001$, $r = 0.7335$, respectively). CONCLUSION:In patients not suitable for surgical intervention imiquimod treatment is an appropriate treatment alternative. Thereby, in vivo RCM was demonstrated to be an excellent examining device, which not only allows diagnosis of LM, but also therapy and follow-up examinations. An important benefit of RCM, in contrast to conventional histopathology, is the simple handling with in vivo examination of epidermal skin without any pain for the patient. KEYWORDS:Imiquimod therapy; Lentigo maligna; Noninvasive follow-up; Reflectance confocal microscopy PMID: 30554198 DOI: 10.1159/000495034