The role of reflectance confocal microscopy in the diagnosis and management of squamous cell carcinoma in situ treated with photodynamic therapy.


ABSTRACT
BACKGROUND: Reflectance confocal microscopy (RCM) is increasingly used for noninvasive in vivo diagnosis of skin cancers. We seek to determine if RCM is useful for the diagnosis and follow-up of squamous cell carcinoma in situ (SCCIS) posttreatment to document clearance. METHODS: A pilot prospective study enrolled 10 patients with a total of 11 SCCIS lesions. Clinical, confocal, histological features and fluorescence diagnosis (FD) were recorded pre- and posttreatment. RESULTS: Four SCCIS lesions underwent RCM imaging prior to biopsy, while 11 SCCIS lesions were followed up with RCM imaging. Clinical features of persistent SCCIS post-PDT in four out of 11 follow-up cases were confirmed with RCM and FD. There were no RCM features of SCCIS in seven lesions which were clinically cured. All eight (four new SCCIS and four follow-up) cases displayed atypical honeycomb pattern. Two cases (25%) showed numerous epidermal dendritic cells, while small bright refractive cells were present in the epidermis in two lesions (25%). Round blood vessels in the superficial dermis were seen in four lesions (50%), while three lesions (37.5%) showed dermal inflammatory cells. CONCLUSION: There was good correlation between histological and confocal features in patients who underwent RCM imaging prior to biopsy. RCM may be a complementary tool in diagnosing SCCIS and to monitor response to nonsurgical treatment by avoiding unnecessary biopsies especially in lesions with persistent residual postinflammatory erythema. © 2019 The International Society of Dermatology. PMID:31286498 DOI:10.1111/ijd.14581