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Ex vivo confocal microscopy features of cutaneous squamous cell carcinoma.

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ABSTRACT

BACKGROUND: Rapid microscopic evaluation of cutaneous squamous cell carcinoma (SCC), its grade of differentiation and level of invasiveness would enable better management of patients' therapy.

OBJECTIVES: Analyzing specific ex vivo confocal microscopy criteria whether they can predict diagnosis of invasive SCC vs carcinoma in situ and poorly differentiated or undifferentiated vs well and moderately differentiated SCC. **METHODS:** Ex vivo confocal images of 102 SCCs in 57 patients were evaluated immediately after excision for the presence of predefined criteria based on confocal and histological knowledge. **RESULTS:** In histopathological examination, 30 SCCs were in situ and 72 invasive. Of these, 29 invasive SCC tumors were well, 19 moderately, 15 poorly differentiated and 9 undifferentiated.

?2 analysis demonstrated that presence of erosion/ulceration, plump bright or speckled cells in dermis, keratin pearls and peritumoral inflammatory infiltrate correlated with diagnosis of invasive SCC.

Erosion/ulceration and peritumoral inflammatory infiltrate were observed more frequently in poorly differentiated or undifferentiated tumors. Plump bright or speckled cells in the dermis were observed less often in well-differentiated tumors. The presence of keratin pearls was associated with well or moderately differentiated tumors. **CONCLUSION:** Ex vivo CLSM allowed rapid examination of SCC and provided useful information on invasiveness and grading of the tumor. © 2017 WILEY-VCH Verlag GmbH & Co. KGaA, Weinheim.

KEYWORDS: Mohs surgery; carcinoma in situ; diagnostics in dermatology; fluorescence confocal microscopy; invasive squamous cell carcinoma; rapid pathology; skin surgery; skin tumors PMID: 29227042 DOI: 10.1002/jbio.201700318