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Simple 3-criteria-based ex vivo confocal diagnosis of basal cell carcinoma.

Hartmann D, Krammer S, Bachmann MR, Mathemeier L, Ruzicka T, von Braunmühl T. *J Biophotonics*. 2018 Jul;11(7):e201800062. doi: 10.1002/jbio.201800062.

ABSTRACT

BACKGROUND:Fast and simple microscopic evaluation of basal cell carcinoma (BCC) together with its subtype determination would accelerate diagnostic and therapeutic procedures in dermatology including Mohs surgery.**OBJECTIVES:**Assessing whether simplified 3-criteria-based ex vivo confocal microscopic (CM) examination can reliably predict BCC diagnosis and subtype. Analyzing interobserver agreement between expert and novice examiner.**METHODS:**CM images of 235 skin samples from 150 patients were prospectively evaluated by 2 blinded examiners for the presence of 3 predefined BCC criteria namely presence of tumor mass, peripheral palisading and clefting.**RESULTS:**Out of 235 skin samples 116 showed histological presence of BCC, confocally expert diagnosed a BCC in 110 and novice examiner in 107 samples. The overall sensitivity and specificity of detecting residual BCC was 96.6% and 98.7%, respectively. Confocally, examiners diagnosed correctly nodular BCC in 96.6%, respectively, 98.3%, superficial BCC in 96.8%, respectively, 93.5%, infiltrating BCC in 88.9%, respectively, 83.3% and other BCC subtype in 22.2%, respectively, 0% (expert and novice examiner, respectively).**CONCLUSION:**Ex vivo CM allowed intraoperative examination of BCC based on only 3-criteria with high sensitivity and specificity, provided useful information on tumor subtype and showed that both experienced and non-experienced examiners may use this diagnostic approach with excellent results.© 2018 WILEY-VCH Verlag GmbH & Co. KGaA, Weinheim.**KEYWORDS:**Mohs surgery; diagnostics in dermatology; fluorescence confocal microscopy; infiltrating basal cell carcinoma; nodular basal cell carcinoma; rapid pathology; skin surgery; skin tumors; superficial basal cell carcinomaPMID: 29726112 DOI: 10.1002/jbio.201800062