Combined reflectance confocal microscopy-optical coherence tomography for delineation of basal cell carcinoma margins: an ex vivo study.


ABSTRACT

We present a combined reflectance confocal microscopy (RCM) and optical coherence tomography (OCT) approach, integrated within a single optical layout, for diagnosis of basal cell carcinomas (BCCs) and delineation of margins. While RCM imaging detects BCC presence (diagnoses) and its lateral spreading (margins) with measured resolution of $>1\, \mu m$, OCT imaging delineates BCC depth spreading (margins) with resolution of $>7\, \mu m$. When delineating margins in 20 specimens of superficial and nodular BCCs, depth could be reliably determined down to $>600\, \mu m$, and agreement with histology was within about $>50\, \mu m$.

© 2016 Society of Photo-Optical Instrumentation Engineers