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 \(<1\,\text{mm}\), OCT imaging delineates BCC depth spreading (margins) with resolution of \(<7\,\text{mm}\). When delineating margins in 20 specimens of superficial and nodular BCCs, depth could be reliably determined down to \(<600\,\text{mm}\), and agreement with histology was within about \(<50\,\text{mm}\).