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 $\leq 1\mu m$, OCT imaging delineates BCC depth spreading (margins) with resolution of $\leq 7\mu m$. When delineating margins in 20 specimens of superficial and nodular BCCs, depth could be reliably determined down to $\leq 600\mu m$, and agreement with histology was within about $\pm 50\mu m$.

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