How histological features of basal cell carcinomas influence image quality in optical coherence tomography - DTU Orbit (13/12/2018)

**How histological features of basal cell carcinomas influence image quality in optical coherence tomography**

Optical coherence tomography (OCT) has the potential to diagnose and measure the depth of nonmelanoma skin cancer (NMSC) in skin, but some lesions appear blurred in OCT images. The aim of this study is to identify histological characteristics of basal cell carcinomas (BCC) that correlate with good quality OCT images of the same lesions. A total of 34 patients with BCC were OCT scanned. The influence of histology parameters (e.g. inflammation, sun damage of skin, carcinoma cell size) on OCT image quality was studied by comparing 15 BCC lesions easily identified compared to 19 BCC lesions that produced only blurred in OCT images. Inflammation was more pronounced in blurred OCT images, whereas solar elastosis dominated in easily identified lesions. Hyperkeratosis did not impair imaging significantly. OCT image quality of BCC may depend on specific histology parameters.

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