



## LINE-FIELD CONFOCAL OPTICAL COHERENCE TOMOGRAPHY CORRELATES OF DERMOSCOPIC GLOBULES

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A subset of melanocytic lesions is characterized by the presence of round to oval globules, which can be distributed throughout the lesion. The presence of regularly distributed globules at the periphery of a lesion indicates horizontal growth in a nevus. However, peripheral globules may also be found in melanomas, particularly when irregularly distributed at the lesion's edge. Reflectance confocal microscopy (RCM) has been used to correlate these features with histopathology. Under RCM, peripheral globules appear as junctional clusters of melanocytes protruding into dermal papillae or as widened interpapillary spaces at the lesion's edge. Other non-invasive imaging techniques, such as super-high magnification ( $\times 400$ ) dermoscopy and fluorescence advanced videodermoscopy, have also demonstrated correlations between dermoscopic and histopathological findings. These methods reveal round melanocytic aggregates associated with globules. A novel optical technique, line-field confocal optical coherence tomography (LC-OCT), has been developed to provide high-resolution, deep-penetration, in vivo imaging for various inflammatory, infectious, and neoplastic dermatological conditions. LC-OCT incorporates an integrat-

ed video dermoscope, allowing real-time correlation between dermoscopy and LC-OCT findings. To date, globules have been associated with melanocytic nests in the dermis or at the dermoepidermal junction under LC-OCT. In this letter, we describe how LC-OCT can aid in evaluating globules in different pigmented skin lesions, providing histological correlation and potentially reducing unnecessary surgical excisions. Through LC-OCT, we were able to observe vertical, histology-like, three-dimensional images of the histological correlates of globules. Globules are well-demarcated, round to oval structures, aggregated in clusters or located at the periphery of melanocytic lesions. Notably, clinically and dermoscopically indistinguishable globules were revealed to be either pigmented keratinocyte aggregates or melanocytic nests on LC-OCT, allowing differentiation between epithelial and melanocytic lesions. In conclusion, this study confirms the utility of LC-OCT in identifying specific globular patterns, providing additional information beyond clinical and dermoscopic evaluation, and potentially reducing unnecessary excisions of benign skin lesions. Further studies with larger sample sizes are needed to validate our findings.