Abstract

Background: Reflectance confocal microscopy (RCM) is a high-resolution imaging tool for in vivo noninvasive evaluation of skin lesions.

Objective: We sought to describe the relevant RCM features for pigmented basal cell carcinoma (BCC).

Methods: Pigmented skin lesions with a differential diagnosis of pigmented BCC were imaged using dermoscopy and RCM, followed by excision for histologic analysis.

Results: RCM demonstrated aggregations of tightly packed cells with palisading, forming cordlike structures and nodules with irregular borders and variable brightness; these represented nests of pigmented basaloid tumor cells on histopathology, and blue-gray ovoid areas on dermoscopy. These tumor nests were associated with bright dendritic structures, identified histologically as either melanocytes or Langerhans cells, together with numerous bright ovoid to stellate-shaped structures with indistinct borders representing melanophages, and with highly refractile granules of melanin.

Limitations: The pigmented BCCs imaged in this study were predominantly nodular; a different set or additional criteria may be necessary for detection of infiltrative and metatypical BCCs.

Conclusion: RCM may permit in vivo diagnosis of pigmented BCC.