ABSTRACT

BACKGROUND: Reflectance-mode confocal microscopy (RCM) is a new approach for the in vivo diagnosis of skin tumors. A few studies of RCM on basal cell carcinoma (BCC) have provided specific diagnostic criteria, but large studies on pigmented basal cell carcinoma are lacking. Proliferation of large dendritic-shaped cells within a melanocytic tumor has been associated with the diagnosis of melanoma by RCM. Benign melanocytes and Langerhans cells may populate BCC according to previous histological studies. We studied 3 consecutive pigmented BCC by means of RCM and performed a histological and immunohistochemical correlation focusing on the presence of dendritic structures.

OBSERVATIONS: Reflectance-mode confocal microscopy revealed highly refractive dendritic structures within tumor nests that correlated with the presence of melanocytes within the tumor by immunohistochemical analysis. In 1 case, dendritic structures on the overlying epidermis corresponding to Langerhans cells were also noted. Leaf-like areas observed on dermoscopy correlated with low-refractive cordlike structures and nodules by RCM and corresponded to nests of basaloid cells, whereas blue-gray globules presented as bright oval structures with ill-defined borders corresponding to melanophages.

CONCLUSIONS: Reflectance-mode confocal microscopy allows the study of pigmented BCC and the identification of specific criteria described previously. In these tumors, dendritic melanocytes can be easily identified with this technique.