ABSTRACT

**Background:** Photodynamic therapy (PDT) represents an optimal treatment for basal cell carcinoma (BCC). Reflectance confocal microscopy (RCM) is a noninvasive imaging tool that has been applied in skin oncology and for BCC diagnosis. Moreover, RCM is a useful tool to determine noninvasive treatment efficacy of nonmelanoma skin cancer. **Objective:** We aimed to investigate the role of RCM in assessing the efficacy of PDT in the treatment of BCC and to evaluate the skin changes following the PDT. **Methods:** Ten patients with 12 BCCs were treated with PDT. Dermoscopy and RCM imaging were performed at baseline as well as 7 days (T1), 30 days and 18 months after PDT. Cytological examination was taken at baseline and in case of BCC persistence. **Results:** At T1, RCM showed the presence of several dendritic-shaped cells within the epidermis, corresponding to activated Langerhans cells. After 1 month, RCM showed the persistence of 2 BCCs, which escaped the clinical and dermoscopic diagnosis. At the long-term follow-up, none of the tumors revealed signs of persistence or recurrence. **Conclusion:** RCM is a valuable noninvasive tool for the diagnosis and treatment monitoring of BCC using PDT.