ABSTRACT
In vivo reflectance confocal microscopy (RCM) provides high-resolution, real-time optical sections of the skin in a non-invasive manner, allowing visualization of the skin in its native state. Highly reflective skin components including melanin, collagen and keratin appear bright (white) in RCM images. RCM examination of solar lentigines is known to show features that correlate well with histologic findings such as supranuclear melanin caps, but there are a limited number of reports on melanocyte dendrites. In this study, we utilized RCM to investigate the melanocyte dendricity and distribution within solar lentigines. Seventeen healthy Japanese females who had fairly large solar lentigines on their faces were recruited to join our clinical study, and we examined them by using RCM on their non-lesional areas, and the inside and the outer rim of the lesional areas. As a result, we discovered that dendritic melanocytes were rarely seen in the center of a solar lentigo (SL), but were seen at a very high frequency in the outer rim of a SL. The results suggest that the melanocytes are more active at the edge of a SL, produce more melanin, and often spread their dendrites widely in a horizontal direction. The findings in this report might shed light on the dynamic pathomechanisms of solar lentigines in vivo.