BACKGROUND/PURPOSE: New techniques are being explored for improving diagnostic accuracy of pigmented skin lesions. Confocal scanning laser microscopy (CSLM) may represent such a novel technique. The purpose of this report was to demonstrate the potential application of CSLM as an aid in the diagnosis of a pigmented skin lesion that is clinically suspicious for melanoma.

METHODS: An irregular pigmented lesion was examined clinically and dermoscopically. The lesion was imaged by CSLM and subsequently excised for histologic examination. Findings from CSLM were correlated with features observed on the dermoscopic and histologic examination.

RESULTS: Confocal scanning laser microscopy (CSLM) allowed for the non-invasive visualization of the histologic features of superficial pigmented BCC, including buds and islands of tumor cells at the dermoepidermal junction and melanin-laden macrophages. Conventional histology confirmed the diagnosis of pigmented BCC.

CONCLUSION: Confocal scanning laser microscopy (CSLM) may serve as an aid in the non-invasive diagnosis of pigmented skin lesions clinically suspicious for melanoma.