**ABSTRACT**

**BACKGROUND:** The diagnosis of basal cell carcinoma (BCC) is generally established by skin biopsy followed by tissue preparation and microscopic analysis. Treatment of BCC is often accomplished by surgical excision.

**OBJECTIVE:** To confirm the presence of BCC with a noninvasive imaging technique, to treat the patient with a topical immune response modifier, and to confirm the clearance of BCC noninvasively.

**METHODS:** Confocal microscopy (CM) is a noninvasive technique for real-time imaging of skin in vivo. Imiquimod, an immune response modifier, is applied topically by the patient to the skin lesion.

**RESULTS:** The presence of BCC was confirmed with CM. Posttreatment CM imaging confirmed the clearance of BCC from the entire treatment field. Both the pretreatment and the posttreatment CM findings were confirmed by invasive biopsy.

**CONCLUSION:** The ability to use CM to image in real time without discomfort to the patient makes it a powerful tool to assist in the diagnosis of skin disease.