



LASERS

CARBON DIOXIDE LASER ABLATION OF BASAL CELL CARCINOMA WITH VISUAL GUIDANCE BY REFLECTANCE CONFOCAL MICROSCOPY

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Introduction: Basal cell carcinoma (BCC) is the most common skin cancer and its incidence is rising. Laser ablation is a safe, rapid treatment for BCC, but lack of histological clearance is a limitation. Reflectance confocal microscopy (RCM) allows in vivo visualization of skin with cellular-level resolution. We wish to evaluate the effectiveness of RCM-guided carbon dioxide (CO₂) laser ablation to treat early BCCs.

Objective:

Materials and Methods: Superficial or early nodular BCC were included. RCM imaging was performed pre- ablation to define lateral and deep margins and define the laser parameters. After ablation, RCM was performed in the wound to identify residual BCC. If residual tumor was observed, additional laser passes were performed. Patients were evaluated clinically, dermoscopically, and with RCM at 1, 6 and 12 months, and with continued clinical surveillance thereafter.

Results: Twenty BCCs in 7 patients (4 male, 3 female) were treated. Median age was 55 years (range 29-74). Eighteen (90%) were on the limbs and trunk, two (10%) on the head and neck. Median lesion diameter was 7 millimeters (range 3-12mm). The medial laser passes was 3 (range 2 to 8). At 1 month, an erythematous depression was observed in all cases which improved by 6 months. With average follow-up 17 months (range 4-29), no recurrence has been detected clinically, dermoscopically or by RCM. All sites show good cosmetic outcome, and RCM shows dermal features of scar.

Conclusion: Our results suggest that CO₂ laser ablation guided by RCM is an effective, minimally-invasive treatment for superficial and early nodular BCC with good cosmetic outcome. Larger studies with long-term follow-up are warranted to confirm our findings.

