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Basal cell carcinoma treated with combined ablative fractional laser and ingenol mebutate - An exploratory study monitored by optical coherence tomography and reflectance confocal microscopy.

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ABSTRACT

BACKGROUND: Basal cell carcinomas (BCCs) have previously been treated off-label with ingenol mebutate (IM). Ablative fractional laser (AFL) may improve efficacy of IM by increasing drug uptake in the tumor. Optical coherence tomography (OCT) and reflectance confocal microscopy (RCM) detect BCC non-invasively. Our aim was to investigate BCC response and tolerability after combined AFL and IM treatment of low-risk BCCs. **METHODS:** Twenty patients with histologically verified superficial (n=7) and nodular (n=13) BCCs were treated with combined fractional CO₂-laser (10,600 nm) and IM 0.015% or 0.05%, the concentration depending on anatomical location. BCC response was evaluated clinically, by OCT and RCM at day 29 and 90 after first treatment, and histologically at day 90. Treatment was repeated at day 29 if BCC persisted. Local skin reactions (LSRs) were assessed using LSR-scale at all visits. **RESULTS:** At day 29, 18/20 patients received a second treatment due to residual BCC detected clinically, by OCT or RCM. OCT and RCM presented subclinical BCCs in five of 20 cases (25%). At day 90, overall histological cure-rate was 70%, corresponding to clinical (65%) and OCT/RCM (60%) cure-rates, and agreement between evaluation methods was substantial ($\kappa > 0.796$, $p < 0.0001$). Clearance rates were similar for sBCCs and nBCCs ($p = 0.354$) and for lesions treated with IM 0.015% and 0.05% ($p = 0.141$). LSRs were tolerable, but scarring was observed in the majority of cleared patients. **CONCLUSION:** Two treatments of combined AFL and IM show potential to treat low-risk BCCs with acceptable tolerability. OCT and RCM show promise to detect subclinical BCCs at short-term follow-up. This article is protected by copyright. All rights reserved. This article is protected by copyright. All rights reserved. **KEYWORDS:** Basal cell carcinoma; ablative fractional laser; ingenol mebutate; optical coherence tomography; reflectance confocal microscopy; skin imaging PMID:31442334 DOI:10.1111/jdv.15907