



Dermatologic Surgery

Volume 27 Issue 2, Pages 107 - 110

Published Online: 7 Jul 2008

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Resurfacing of Pitted Facial Acne Scars with a Long-Pulsed Er:YAG Laser

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ABSTRACT

Background. Conventional short-pulsed Er:YAG lasers show less effective hemostasis and weak photothermal damage on papillary dermis. Recently, newer long-pulsed Er:YAG laser systems has been developed.

Objective. To evaluate the clinical and histologic effects of long-pulsed Er:YAG laser resurfacing for pitted facial acne scars.

Methods. Thirty-five patients with pitted facial acne scars were treated with a long-pulsed Er:YAG laser. All patients had Fitzpatrick skin phototypes III–V. A pulsed Er:YAG laser with a 5 mm handpiece at a setting of 7.0–7.5 J/cm² with a 10-msec pulse duration was used. The laser was fired at 5 Hz, with four to five passes. In 28 patients, the results of laser treatment were evaluated for the degree of clinical improvement, duration of erythema, pigmentary change, and any adverse events at 2 weeks, 1 month, and 3 months. In seven patients, skin biopsy specimens were obtained at the following intervals: immediately, 1 week, 2 weeks, 4 weeks, and 8 weeks postoperatively for histologic examination.

Results. **The results of long-pulsed Er:YAG laser resurfacing for pitted facial acne scars were excellent in 10 patients (36%), good in 16 patients (57%), and fair in 2 patients (7%). Erythema occurred in all patients after laser treatment and lasted longer than 3 months in 15 patients (54%). Postinflammatory hyperpigmentation occurred in 8 patients (29%). But the pigmentation faded or disappeared within 3 months. One patient (4%) experienced mild hypopigmentation. Pruritic symptoms that required medical intervention occurred in 16 patients (57%). Mild to moderate postoperative acne flare-up occurred in 8 patients (29%). No other adverse effects such as scarring, bacterial infection, or contact dermatitis were observed.**

Conclusion. In conclusion, resurfacing with a long-pulsed Er:YAG laser is a safe and very effective treatment modality for pitted facial acne scars.