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Comparative study of fractional CO₂ laser and fractional CO₂ laser-assisted drug delivery of topical steroid and topical vitamin C in macular amyloidosis.

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Abstract

Macular amyloidosis (MA) represents a common variant of primary localized cutaneous amyloidosis. It has a characteristic female predominance; none of the treatment modalities described is either curative or uniformly effective in patients with macular amyloidosis. To determine the effect of fractional CO₂ laser in macular amyloidosis in comparison to fractional CO₂ laser assisted drug delivery of topical steroids and topical vitamin C, the study includes 10 female patients with cutaneous macular amyloidosis aged between 20 and 62 years. Patients were treated with four sessions of fractional CO₂ laser with 4 weeks interval.

Laser treatments were performed using fractional CO₂ laser with the following parameters (power 18W, spacing 800 μm, dwell time 600 μs, stacking 3). The lesion is divided into three areas: area 1, treated by fractional laser only; area 2, treated by fractional laser followed by topical corticosteroid application under occlusion for 24 h; and area 3, treated by fractional laser followed by topical vitamin C serum application under occlusion for 24 h. All lesions were examined clinically and histologically before the therapy and 1 month after the end of the therapy to evaluate the degree of improvement. All treated areas show significant decrease in pigmentation score after treatment, significant drop in rippling (P value < 0.016), and improvement of lichenification; as regards the histological improvement, there was a significant decrease of the amyloid amount after treatment. As regards the amyloid amount, results show significant decrease in the amount of amyloid in all of the three treated areas. Area 2 reported the highest decrease in the amyloid amount followed by areas 1 and 3. One patient (10%) was highly satisfied by the

treatment, 6 (60%) reported moderate degree of satisfaction, while only 3 (30%) reported mild satisfaction. Minimal complication occurred in the form of post-inflammatory hyperpigmentation in 1 patient. None of the patients suffered pain, ulceration, or infection. Fractional CO2 alone can be used to improve the texture of macular amyloidosis. If used to assist the delivery of topical steroids and topical vitamin C, improvement can be highly increased.

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