

Topical delivery of triamcinolone via skin pretreated with ablative radiofrequency: a new method in hypertrophic scar treatment.

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Abstract

BACKGROUND:

Epidermal permeability alterations induced by ablative fractional resurfacing and low-frequency ultrasound technology may offer drug delivery for the treatment of hypertrophic scars through transepidermal drug delivery (TED). This technology can improve treatment efficacy and minimize side effects.

OBJECTIVE:

To evaluate clinical response and side effects of TED technology in hypertrophic scars in the body and on the face using ablative fractional radiofrequency (RF) associated with low-frequency acoustic pressure ultrasound (US).

METHODS:

Four patients with hypertrophic scars were treated with triamcinolone using fractional ablative RF and US. The treatment procedure comprised three steps: (i) ablative fractional RF for skin perforation; (ii) topical application of triamcinolone acetonide 20 mg/ml on the perforated skin; and (iii) acoustic pressure wave US applied to enhance triamcinolone penetration into the skin.

RESULTS:

Complete resolution was seen after one session in patients with scars on the nose and mandibular area. The scar on the neck showed complete resolution after four sessions. The scar on the knee showed a marked improvement after four sessions. Mild and homogeneous atrophy was observed in hypertrophic scars on the neck.

CONCLUSION:

Ablative fractional RF associated with acoustic pressure US is a new technology aiming to increase drug delivery into skin. This new method can improve the efficacy of steroids in hypertrophic scar treatment, minimizing the risks of localized atrophy and irregular appearance of the treated lesion.

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