

Combining microneedling with other minimally invasive procedures for facial rejuvenation: a split-face comparative study.

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Abstract

BACKGROUND: The introduction of minimally invasive procedures has increased acceptance due to their efficacy, safety, and relatively long-lasting and natural results. At least two different and unrelated modalities are employed to consider a combination treatment.

OBJECTIVES: This study aims to evaluate and compare the use and effectiveness of combined **microneedling** with platelet-rich plasma (PRP) or trichloroacetic acid (TCA) peeling for facial rejuvenation.

PATIENTS/METHODS: Twenty-four volunteers with photoaging were randomly divided into three equal groups according to performed procedure on each side of the face (**microneedling** by dermaroller alone or combined with PRP or TCA 15% peeling). They had received one session every 2 weeks for six sessions of treatment. Photography and punch biopsies were performed before and after 3 months of treatment for clinical, histometrical, and histological evaluation.

RESULTS: Combined treatment of dermaroller and PRP or dermaroller and TCA showed significant improvement when compared with dermaroller alone. Significant increase in epidermal thickness was apparent in studied groups, especially after combined treatment with TCA. Organized collagen bundles with newly formed collagen formation and markedly decreased abnormal elastic fibers were noticed in the three studied groups. However, improvement of dermal structures was better demonstrated after combined treatment of Dermaroller and PRP than Dermaroller and TCA 15%.

CONCLUSIONS: Most volunteers showed significant clinical improvement after treatment supported by the histometrical and histochemical evaluation; however, the combined use of dermaroller with PRP is apparently more beneficial for facial rejuvenation.

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