LASERS

TITLE: THE EFFICACY OF A COMBINED THERAPY: CALCIUM HYDROXYLAPATITE BASED FILLER AND ENERGY BASED DEVICE FOR TREATMENT OF ACNE SCARS

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Background: Current treatment options for acne scars include energy-based devices (EBD), chemical-based modalities, physical surgical-based and non-surgical options.

Objective: To evaluate the efficacy and safety of combining diluted Calcium hydroxylapatite based filler with EBD for acne scar treatment.

Methods: The medical records of all acne scar patients treated in our center between the years 2013-2016 were reviewed. Two objective dermatologists and the patients assessed the aesthetic improvement (baseline Vs. 6 months post last treatment) of the acne scars by using a global assessment scale (GAS) on 0-5 scale. The patients rated their satisfaction, numbered the days of downtime post treatment and reported side-effects.

Results: 352 patients were treated. 8% were treated with the injection of diluted Calcium hydroxylapatite. while the rest were treated with EBD +/- CaHA: 46% with ablative fractional CO2 laser, 28% with radiofrequency (RF) bipolar device and 18% with 1540 nm non-ablative fractional laser. The median number of treatments was lower in the FACL treated patients in compare to the other EBD (FACL - 3.3±1.1, NAFL - 5.4±1.7, RF - 5.1±1.5). The integrated median GAS of the 2 dermatologist's' was the highest for the FACL treated patient's (3±0.5, $p<0.001$). Treatment combination of EBD with CaHA, in different treatment sessions, was found to be more effective ($p<0.05$). Patients treated with FACL reported the longest down time (median – 7 days) and more side effects, with the most common being hyperpigmentation.

Conclusions: The combined use of diluted Calcium hydroxylapatite based filler injection followed by fractional ablative CO2 laser in separate treatment sessions is a promising treatment option for the treatment of acne scars.