

LASERS

EVALUATION OF A NON-ABLATIVE FRACTIONAL 1565 NM LASER FOR THE IMPROVEMENT OF STRIAE DISTENSAE ALBAE

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Background and Objective: Striae distensae (SD) represent therapeutically challenging forms of dermal atrophic scarring. Next to topical ointments, medical needling and various energy-based devices, non-ablative fractional lasers have been suggested for their improvement. However, objective evaluations of their efficacy are widely missing. In this study, we aimed to assess the clinical improvement of SD after three treatments with a non-ablative fractional 1565nm Er:glass laser by employing several questionnaires and three-dimensional analysis.

Patients and Methods: 16 female Caucasians suffering from SD albae were included in this prospective study. Every patient received three treatments – one every four weeks – using a non-ablative, fractional 1565nm laser (two passes: 300µbeams/cm2, 40mJ inside the SD; 150µbeams/cm2, 50mJ inside the SD and within the surrounding area). Questionnaires (DLQI, POSAS, EQ-5D-3L), digital photography and three-dimensional analysis employing PRIMOS software and VECTRA camera system were taken at baseline, one month and six months after the last treatment.

Results: Evaluation of objective measurements showed a significant reduction of depth of atrophic lesions by 31,7%, less skin irregularities with Smax at baseline of 621.2 μ m decreasing to 411.6 μ m at 6 months follow-up (FU). (p < 0,01 respectively)

Objective improvement was supported by significant changes in patients' rating of skin appearance (POSAS Patient Total Score declined from 33.5 points to 17.5 points throughout the study, indicating improvement in SD thickness, smoothness and enhanced overall opinion (p < 0.001 respectively)), leading to a highly improved quality of life with DLQI score improving by 68.0% from baseline to 6 months FU. Procedures showed no lasting negative side effects and little to no down time.

Conclusion: The use of fractional non-ablative 1565nm laser represents a safe approach for the treatment of SD albae. Significant clinically observed improvements were supported by data from objective measurements.





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