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**Efficacy of Microneedling Versus Fractional Non-ablative Laser to Treat Striae Alba: A Randomized Study**

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**Abstract**

**Background**

Striae distensae (SD), an unsightly cutaneous condition characterized by epidermal atrophy, can affect the quality of life of women.

**Objectives**

The aim of our study was to compare the efficacy of a neodymium:yttrium–aluminum–perovskite 1340 nm non-ablative fractional laser (NAFL) and the microneedling (MN) technique to treat striae alba (SA).

**Materials and Methods**

NAFL and MN were used to treat striae on the longitudinally divided abdominal surface of 20 women classified as Fitzpatrick skin type III or IV (five sessions at monthly intervals). Photographs and skin biopsies were obtained during pretreatment and after the third and fifth treatment sessions for all patients. Patients and two independent evaluators assessed the clinical response using the Global Aesthetic Improvement Scale.

**Results**

Patient-reported evaluation showed improvement of striae using both modalities, with no statistically significant difference between the groups. Collagen and elastic fibers were significantly increased (*p* < 0.01) after the third and fifth treatment sessions, with no significant difference between the modalities. In addition, Dermatology Life Quality Index scores showed significant improvement (*p* < 0.001) after the third and fifth treatment sessions compared with pretreatment values, with average values of 8.4 (standard error [SE] ± 1.21), 3.17 (SE ± 0.55), and 2.64 (SE ± 0.60), respectively. The mean pain score using the Visual Analog Scale in the MN group versus the NAFL group was 5.23 (SE ± 0.31) versus 2.39 (SE ± 0.22) [*p* < 0.001], and the mean duration of adverse events in the NAFL group versus the MN group was 4.03 days (SE ± 0.45) versus 3 days (SE ± 0.37) [*p* = 0.02].

**Conclusion**

NAFL and MN are safe for treating SD, particularly in individuals classified as phototype III or IV. MN is a useful non-technology-dependent, low-cost alternative therapy for SA.

**Clinical Trial Registration Number**

NCT03390439.

**Electronic supplementary material**

The online version of this article ( <https://doi.org/10.1007/s40257-018-0415-0>) contains supplementary material, which is available to authorized users.

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**Notes**

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Evaluation assistance was provided by Clarissa Prieto Herman Reinehr, MD, Master in Medical Sciences, and Juliano Peruzzo, MD, Master in Medical Sciences.

**Compliance with Ethical Standards**

**Conflicts of interest**

Ana Paula Naspolini, Juliana Catucci Boza, Vinicius Duval da Silva, and Tania Ferreira Cestari have no conflicts of interest to declare.

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**Research involving human participants and/or animals**

This study was performed in accordance with the ethical standards of the Declaration of Helsinki, and was approved by the Ethics Committee of the Clinical Hospital of Porto Alegre (CAAE: 47639415.1.0000.5327).

**Informed consent**

All patients were provided complete information regarding the procedures, and subsequently signed informed consent forms.

**Supplementary material**

[40257\_2018\_415\_MOESM1\_ESM.pdf](https://static-content.springer.com/esm/art%3A10.1007/s40257-018-0415-0/MediaObjects/40257_2018_415_MOESM1_ESM.pdf) (379 kb)

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