

# Treatment of Striae Distensae with Variable Square Pulse Erbium:YAG Laser Resurfacing in Patients with Skin Phototype III - IV

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## SUMMARY

Striae distensae are a frequent skin condition for which treatment remains a challenge. Various laser treatments have been employed to remove the epidermis and cause a dermal wound with subsequent dermal collagen remodeling [1]. Patients with darker skin tones develop greater risk for developing postinflammatory hyper-pigmentation (PIH) after laser resurfacing.

21 patients completed a study in which we were evaluating the efficacy and safety of two parameter sets of VSP Er:YAG 2940 nm laser treatment. 33 body areas were randomized into two groups: 16 areas were treated with SP & SMOOTH mode (7 mm spot size, 400 mJ SP, 1 pass, 50% overlap, and 2.2 J/cm<sup>2</sup> SMOOTH, 1 pass, non-overlapping) while 17 other areas were treated with SP only. Two treatment sessions were performed with a 4-week interval.

The improvement was evaluated at 1, 3, and 6 months after the treatment by an independent dermatologist as well as by the patients themselves. Skin smoothness was evaluated using a UVA-light video camera (Visioscan VC98) as well as physician assessment of standardized photographs.



Fig. 1: Patient treated using SP & SMOOTH mode of Er:YAG laser showed 51-75% improvement of skin texture.

Results of all measurements (subjective and objective) showed a significant improvement in both groups and no significant difference between the groups. The major adverse effect was

transient hyperpigmentation (in 75% of treated cases), which appeared in both groups without significant difference.

VSP Er:YAG laser resurfacing is a promising treatment option for striae distensae. Transient PIH is a common side effect found in patients with darker skin tone, even in non-sun exposure areas, and in some patients lasts as long as 6 months. To avoid adverse side effects, lower fluence should be used in patients with darker skin phototypes, and pre- and post-treatment with topical preparations for PIH prevention may be needed.

## REFERENCES

1. Cho S Bin, Lee SJ, Lee JE, Kang JM, Kim YK, et al. (2010). Treatment of striae alba using the 10,600-nm carbon dioxide fractional laser. *Journal of cosmetic and laser therapy: official publication of the European Society for Laser Dermatology* 12: 118-119.

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