Evaluation of a 1540 nm and 1410 nm Non-Ablative Fractionated Laser for the Treatment of Striae.

Krystle Wang MD, Nicholas Ross BA, Katie Osley MD, Michael Frank MD, Jouni Uitto MD, Joya Sahu MD, and Nazanin Saedi MD
Thomas Jefferson University, Philadelphia, PA

Study Design:

- 10 patients with abdominal striae were treated.
- ½ of the abdomen was treated with the Icon 1540nm laser (XD: 50 J/cm², 15 ms, 2 passes; XF: 50 J/cm², 15 ms, 2 passes, total 25% density). The other ½ was treated with the Emerge 1410nm laser (30 J/cm², 5 passes, 16% density).
- Patients received 6 total treatments at 2-6 weeks apart. Photographs were taken at baseline and 3 months follow up.
- Results were scored by dermatologists (blinded to Tx detail) and by patient self-assessment.

Results:

- 9 patients completed the study and all demonstrated clinical improvement.
- 28% of 1410nm and 33% of 1540nm treated patients were rated at "good" or "excellent". 72% of 1410nm and 66% of 1540nm patients were rated as having "mild" or "fair" improvement.
- Difference in efficacy between the 2 lasers was not statistically significant (p=0.747).
- All patients were either "very satisfied" (71.4%) or "moderately satisfied" (28.6%) with the treatment.
- All patients experienced transient hyperpigmentation, which lasted longer on 1410nm side.
- Pathology showed 1540nm had more dermal thickening and collagen production, but equal amount of elastin production to the 1410nm.

Conclusion:

- Treatments with the Icon 1540nm were significantly quicker, resulted in less pigmentedary change and showed greater improvement in collagen production than with the Emerge 1410nm.
- Both were well tolerated without long-lasting side effects.
- All patients demonstrated clinical improvement of their striae following both laser treatments.