

Acne Scar Patients May Need Ongoing Laser Tx

BY MIRIAM E. TUCKER

NATIONAL HARBOR, MD. — Fractional laser resurfacing produced long-term results in a small study of patients treated for acne scarring or photodamage.

Fractional deep dermal ablation is a newer modality that produces clinical improvement in photodamaged skin and acne scarring but with reduced downtime and a lower risk of complications, compared with traditional carbon dioxide resurfacing. However, the long-term outcomes of patients treated with fractional resurfacing have not been previously reported, Dr. Arisa Ortiz said at the annual meeting of the American Society for Laser Medicine and Surgery.

In the current study, results at 1-2 years were somewhat diminished, compared with those seen at 3 months, but were still better than at baseline and pa-

tient satisfaction was maintained, said Dr. Ortiz of the University of California, Irvine.

The single-center study involved six patients with acne scarring and four with photodamage. All had been previously enrolled in studies of fractional resurfacing for those two conditions. They were aged 24-63 years, with skin types I-V. There were no serious adverse events associated with the treatment, she said.

All 10 patients returned at 3 months for assessments of improvement in skin texture, rhytids, pigmentation, skin laxity, acne scarring, and overall appearance, compared with baseline.

The patients with acne scarring were then reassessed at 1 year and the patients with photodamage, at 2 years. Three investigators clinically rated improvement on a quartile scale: 0% (no improvement), less than 25% (minor), 25%-50% (minor to moderate),

51%-75% (moderate), and greater than 75% (marked).

Among the acne scarring patients, at 1 year there was 83% maintenance of the initial overall improvement seen at 3 months. For those treated for photodamage, 50% of the 3-month improvement was maintained at 2 years. Overall, there was a 74% improvement from 3 months to the 1- or 2-year follow-up assessment. No patient returned to baseline levels, Dr. Ortiz reported.

Possible explanations for the difference in results between 3 months and the long-term visit include relaxation of tightening, progression of normal aging, or persistent inflammatory changes present at 3 months, as evidenced by heat shock protein activity and ongoing collagen remodeling seen in previous histologic studies.

These results suggest that additional treatments may be necessary to enhance long-term results. It also appeared that acne scarring requires more treatments at higher energies, compared with photodamaged skin, and that performing more frequent treatments early on may result in less bleeding and less downtime for all patients, Dr. Ortiz said.

The original study was funded by Reliant Technologies Inc., but this long-term follow-up study was departmentally funded, she said. ■



PHOTOS COURTESY DR. ARISA ORTIZ

As demonstrated above, results at 1 year (far right) were somewhat diminished—compared with those seen at 3 months (center)—but were still better than at baseline (left), and patient satisfaction was maintained, according to Dr. Arisa Ortiz.

Nonablative Fractional Resurfacing Dulls Burn Scar Severity

BY MIRIAM E. TUCKER

NATIONAL HARBOR, MD. — Nonablative fractional laser resurfacing produced significant improvement in scar severity in a study of 10 patients with second- and third-degree burn scars.

A total of five treatments delivered at 4-week intervals using a 1,550-nm nonablative erbium-doped fiber laser (Fraxel re:store) resulted in objectively-assessed reductions in overall scar severity, as well as improvement in topographical and textural abnormalities, Dr. Jill Waibel reported at the annual meeting of the American Society of Laser Medicine and Surgery.

“Burn scars are a challenge because they have traditionally been difficult to treat, and they are among the worst scars seen in clinical medicine. There is compelling evidence to suggest that nonablative fractional resurfacing improves the appearance and functionality of scarred tissue following burns. I think fractional lasers are the gold standard for scars,” said Dr. Waibel, who is in private practice in West Palm Beach, Fla.

Burn scars are extremely heterogeneous, often comprising areas of hypertrophy, atrophy, and hyperpigmentation. Fractional photothermolysis, which provides a greater depth of penetration than traditional CO₂ laser resurfacing, appears to benefit the variety of scar types that arise from burn injury, she said.

The eight men and two women in the study ranged in age from 23 to 68 years.

Nine had third-degree burns and one had second-degree burns. Treatment areas included the face, neck, chest, arms, hands, abdomen, calf, and leg. Patients were treated with energy levels ranging from 40-70 mJ/pulse, treatment level range 6-13, density 29-65 MTZ/cm² per pass, total density 42-1,359 MTZ/cm², and adjunctive cooling with the Cryo 5 (Zimmer MedizinSysteme).

Three blinded investigators evaluated changes in overall improvement, dyschromia, degree of atrophy or hypertrophy improvement, and texture improvement graded on a quartile scale of 0-3, with 0 being none, 1 mild (1%-33%), 2 moderate (34%-66%), and 3 excellent (67%-100%). The patients also scored their own levels of self-esteem, and both the patients and the investigators independently evaluated changes in erythema, edema, hyper- and hypopigmentation, and burn scars overall at 1, 3, and 6 months after the final treatment. Photos were also taken at baseline and at 3 months post treatment.

Based on a protocol recommended by the Food and Drug Administration, the evaluators were given random before and after patient photographs. In one patient, none of the three blinded investigators identified the before and after photos correctly. All three investigators correctly identified the other 9 patient photos, so those 27 evaluations were used for the data analysis.

Overall improvement was noted in all 27 (100%), with 37% scored as excellent,

41% as moderate, and 22% as mild. Improved dyschromia was noted in 96% of the blinded evaluations, with 60% having at least moderately improved. Improvements in atrophy/hypertrophy were also noted in 96%, with 63% having at least moderately improved. Improved skin texture was seen in 100%, with 63% having at least moderately improved texture, Dr. Waibel reported.

The average of the patients' self-assessments of self-esteem at 3 months was 8.2 on a scale of 1-10 with 10 being “I feel great about myself.” On a 0-3 scale of improvement in burn scar area with 0 being “no improvement” and 3 being “excellent improvement,” the average of the patients' self-assessment at 3 months was 2.3.

Anecdotally, patients also spoke of diminished pain, improved motion with a decrease in contractures, and better cosmesis, Dr. Waibel added.

The findings from this study will be submitted to the FDA to support a new indication for burn scars. (Fraxel re:store is currently approved for skin resurfacing.) Additional studies will be necessary to determine the optimal parameters for burn patients, Dr. Waibel said in an interview.

The next phase of studies that Dr.



The patient's hand is shown before undergoing treatment with the Fraxel re:store laser.



Three months and five laser treatments later, overall severity of the burn scar is reduced.

PHOTOS COURTESY DR. WAIBEL

Waibel and her associates are studying include the use of nonablative fractional resurfacing in combination with intralesional triamcinolone (Kenalog), and also the use of ablative fractional resurfacing devices.

Dr. Waibel and her associates received a research grant from Reliant Technologies Inc. (now Solta Medical, Fraxel manufacturer) to conduct this study, and have received honoraria from the company for lectures. ■