Patient, Patients: Some Laser Results Are Subtle

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PARK CITY, UTAH — Make sure that patients treated with nonablative lasers have reasonable expectations of what their skin will look like after rejuvenation therapy, Dr. Thomas E. Rohrer said at a symposium sponsored by the American Society of Ophthalmic Plastic and Reconstructive Surgery.

"Improvement is gradual and subtle, but it is real," Dr. Rohrer said, warning that patients expecting dramatic skin changes after each treatment could be disappointed.

Dr. Rohrer, a Mohs and dermatologic surgeon in Chestnut Hill, Mass., described nonablative skin rejuvenation as one of the fastest-growing areas of dermatologic surgery, with a 60% increase in 2 years’ time.

"What we’re talking about is creating a controlled dermal injury—a thermal injury 100-400 microns deep—to get collagen remodeling," he said at the meeting, which was also sponsored by the American Society for Dermatologic Surgery and the American Academy of Facial Plastic and Reconstructive Surgery.

Infrared lasers heat the dermis to get this effect, according to Dr. Rohrer. Heating the dermis results in a wound healing response: inflammation, proliferation, and remodeling. The process can take months.

"You are effectively changing the dermis without affecting the epidermis," he said. The infrared lasers available today vary only slightly and have produced similar outcomes in the studies reported so far. The amount of improvement varies from patient to patient, but most do improve, he noted.

Despite the use of anesthetic creams and cryogenic cooling, infrared laser treatment does hurt, he said. In his practice, attempts to limit pain have involved vibratory anesthesia, the application of anesthetic cream for about an hour, and the Zimmer cooler, which he said was the most effective.

Multiple treatment sessions—going over the same area twice at a lower fluence—also can reduce pain. "It hurts a little bit less at each pass, but you are doubling treatment time," he said, "so I am not sure how effective or practical that is going to be."

In what may be the longest study of a nonablative therapy, patients were followed for 35 months. The investigators found that improvement peaked at 6 months after the last treatment, but at 35 months patients still had almost 30% improvement in the texture of the skin, Dr. Rohrer said.

Many patients are combining nonablative lasers with botulinum toxin treatments. Because Botox is known to work, this has raised a question as to the role of the lasers in any improvement that is seen.

"Certainly Botox works faster than nonablative [therapy] and jump starts rejuvenation," he said, showing photographs of patients whose improvements lasted months after the Botox effect would have worn off.

He recommended infrared lasers for the treatment of scars, but again cautioned that patients have to understand that improvement will require multiple treatments over a long time. "We should let our patients know they cannot expect a whole lot after just three treatments," he said.

Visible light lasers are another nonablative option that has improved pigmentation and vasculature. They also have produced histologic changes and changes in skin texture over time.

Intense pulsed light systems deliver a broad band of wavelengths, some of which help with pigmentation while others increase collagen, according to Dr. Rohrer. He said that he is preparing to publish a series of studies on this option.

Photomodulation light-emitting diodes offer another nonablative therapy that has produced improvement in most patients studied. "Improvement is subtle, but it is there if you measure it," he said.

Dr. Rohrer disclosed that he receives compensation for research from laser manufacturers Candela Corp., Laserscope, and Palomar Medical Technologies Inc.