New Laser System Offers Another Skin Tx Option

BY SHARON WORCESTER
Southeast Bureau

ATLANTA — Fractional photothermolysis for skin rejuvenation provides results similar to those achieved with ablative laser resurfacing, but without the downtime, Dr. Tina Alster said at the joint annual meeting of the American Society for Dermatologic Surgery and the American College of Mohs Micrographic Surgery and Cutaneous Oncology.

The new fiber laser technology is particularly good for treating dyspigmentation and rhytides, and can be used on areas other than the face, such as the arms, neck, chest, and hands, said Dr. Alster, director of the Washington Institute of Dermatologic Laser Surgery.

Of about 20 lasers that she uses in her practice, the Fraxel laser (Reliant Technologies Inc., Palo Alto, Calif.) is one of those she uses most often.

According to information from Reliant, the Fraxel laser system—which is approved for the treatment of melasma but also has been used for surgical and acne scars, striae, and actinic keratoses—treats the skin fractionally, with patterns of microscopic laser spots that are 70-100 µm in diameter. Each laser spot is called a microthermal zone, or MTZ, and the laser can deliver 2,000 MTZs per cm^2 in a typical treatment session. About 200-300 µm of untreated space is left between each MTZ. However, the treating physician has the ability to vary spot pitch and fluence.

The use of the MTZs with adjacent untreated tissue allows fractional wound healing with rapid reepithelialization of the epidermis and collagen remodeling to depths of 400-700 µm. This is compared with the 200-µm depth achieved with traditional ablative laser treatments.

Histology following treatment shows that the stratum corneum remains intact and epidermal tissue is coagulated. Collagen remodeling is also demonstrated, explained Dr. Alster, who reported no financial interest in the device.

"You see reepithelialization of the whole site within 24 hours," she said.

Her treatment protocol involves skin cleansing and application of a blue tint, which is required for the laser to work. About 30-60 minutes prior to the procedure, she also applies a topical anesthetic containing 30% lidocaine.

Dr. Alster said she usually uses 8-10 MJ per cm^2, energy density of 250 MTZs per cm^2, and four to eight passes. An air cooler is used to increase patient comfort.

Patients usually require two to four treatments at 2- to 4-week intervals. Most come back monthly to complete the series of treatments, she said. The skin is erythematous immediately after each treatment and remains so for approximately 2 days. On day 2 or 3, a variable amount of peeling occurs, resulting in rough-feeling skin.

Results are incremental, with additional improvement seen after each treatment. Most patients will achieve 50% improvement when being treated for dyspigmentation and/or rhytides. Although the laser is not marketed as a skin tightening device, it does provide some skin tightening, Dr. Alster noted.

The results are better than what she has experienced with trichloroacetic acid peels, particularly for fine lines, she said, and the recovery time is much quicker than with ablative resurfacing.

Dr. David Goldberg of Skin Laser and Surgery Specialists of New York and New Jersey agreed that fractional photothermolysis has several applications and a relatively good safety profile, but he cautions that adverse events are still possible. Scarring, for example, can occur when the device is held in one place for too long.

Dr. Goldberg also noted that many of the effects of this laser can be achieved with other modalities.

"It clearly works," he said, but it's not the "end all and be all."

For example, acne scarring responds well to the Fraxel laser, but it can also be treated effectively with the CoolTouch or Smoothbeam lasers. Crow's-feet can be treated effectively with botulinum toxin, and lentigines can be treated effectively with the Q-switched laser and intense pulsed light, Dr. Goldberg said.

"This is not a system that you buy simply to treat lentigines; this is not a system you buy simply to treat crow's-feet … but I think that you can't argue the fact that when you put the whole picture together, it's got tremendous diversity, and that diversity has led to its popularity," he said.

Dr. Goldberg has received a research grant from Reliant Technologies Inc. ■