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CONFERENCE COVERAGE

Ablative fractional lasers treat scars like 'a magic wand'

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SAN DIEGO – The development of ablative fractional lasers has revolutionized how dermatologists treat scars, according to Jill S. Waibel, MD.

"I tell patients it's like boiling water in a tea kettle and watching the vapor form," Dr. Waibel, a dermatologist with the Miami Dermatology and Laser Institute, said at the annual Masters of Aesthetics Symposium. "You literally 'steam off' their bad scar and the human body will heal that wound to almost normal skin. It's the closest thing we have to a magic wand."

In the not-too-distant past, dermatologists "were treating scars just to make them look better," she said. However, thanks to groundbreaking work by clinicians at Naval Medical Center San Diego, the use of ablative fractional lasers to treat scars was found to improve range of motion in patients, as well as their pain and pruritus. "It represents a major innovation that heals in ways not previously possible," said Dr. Waibel, who is also chief of dermatology at Baptist Hospital in Miami. "We're not just healing the scar; we're healing the skin back to its physiological normal place. A lot of these patients suffer quite a bit."

Dr. Waibel likened her scar treatment approach to a three-course meal. Lesion color drives her choice of what device to use as an "appetizer" treatment. Most scars are either red (erythematous), brown (hyperpigmented), or white (hypopigmented). Though every scar is unique and individually evaluated for treatment, typically she uses pulsed dye laser, intense pulsed light, or broadband light therapy to treat erythematous/early scars; nonablative fractional lasers to treat atrophic scars, and the thulium or 1,470-nm laser to treat hyperpigmented scars. The "main course" device in her practice is an ablative fractional erbium or CO2 laser.

"Once I treat the scar three to five times, I might switch to a nonablative laser, but I'm really an ablative fractional user," Dr. Waibel said. "Dessert" can be whatever adjunctive therapies you need, she continued. This may include triamcinolone acetonide, 5-fluorouracil, poly-l-lactic acid, hyaluronidase, Z-plasty, punch biopsies, shave biopsies, compression, chemical reconstruction of skin scars (CROSS), and subcision.

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For erythematous surgical and trauma scars, she uses a combination of pulsed dye laser and ablative fractional laser. “Same day, same treatment; one after each other,” she said. She favors using intense pulsed light for donor sites because it has filters that address both melanin and hemosiderin, superiority for scar erythema, and deeper penetration with greater speed to treat large surface areas.

One recent advance in the vascular arena is the new 595-nm pulsed dye laser by Candela, known as the VBeam Prima. It features increased energy, a 15-nm spot size, a zoom hand piece, once-a-day calibration, and contact cooling, which may be better for pigmented and possibly microvascular structures. The device is cleared for treating conditions like rosacea, acne, spider veins, port-wine stains, wrinkles, warts and stretch marks, as well as photoaging and benign pigmented lesions.

Dr. Waibel’s go-to device for treating a hypertrophic, hyperpigmented surgical scar is a 1927-nm or 1470-nm nonablative fractional laser, followed by a fractional ablative laser and injection of 1-2 ccs of 5-fluorouracil only to elevated areas. Hypopigmented scars are “by far the toughest to treat,” she said. However, she has a formula for these, too, and recently conducted a trial comparing the efficacy of nonablative fractional laser, ablative fractional laser, and ablative fractional laser followed by laser-assisted delivery of bimatoprost (Latisse) to treat hypopigmentation.

Surgical scars get better on their own in many cases, but sometimes early intervention is warranted. “Most surgeons will tell patients, ‘Wait a year. What you have [in terms of scar formation] is what you have,’” Dr. Waibel said. “If a surgical scar becomes hypertrophic, it does so within a month of surgery. I don’t prophylactically treat surgical scars unless the patient has had multiple surgeries in the same location with trouble healing. But if it’s been 6 months to a year, or if the patient is developing hypertrophic scars, then I will treat.”

Acne scars are challenging, because patients want to look good right away. “With deep scars, it takes several treatments to see good improvements,” she said. “I tell all my acne scar patients it takes a year [to get good results].”

Most burn patients require three to six treatment sessions, “but sometimes you get remarkable improvement sooner,” she said. “That’s due to the patient’s healing.” She and her associates recently completed an unpublished study that examined early intervention of fractional ablative laser versus control in 20 subjects with acute burn injuries who ranged in age from 18 to 80 years. The subjects underwent treatment with an ablative fractional CO2 laser within 3 months of sustaining the burn injury, leaving an untreated control area for comparison. According to Dr. Waibel, 100% of the blinded physician evaluators graded the laser-treated area correctly, compared with the control area. In addition, a significant improvement in all points of the Manchester Scar Scale was observed in the laser-treated area. “The earlier you treat burn and trauma patients, the easier it is to get them back to normal,” she said.

Dr. Waibel disclosed that she has conducted clinical research for Aquavit, Cytrellis, Lumenis, Lutronic, Michelson Diagnostics, RegenX, Sciton, Sebacia, and Syneron/Candela. She is also a consultant for RegenX, Strata, and Syneron/Candela and is a member of the advisory board for Dominion Technologies, Sciton, and Sebacia.

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