

Multiple RF Passes Reduce Laxity, Spare Pain

BY DIANA MAHONEY
New England Bureau

BOSTON — Multiple passes of low-fluence radiofrequency delivery can significantly improve overall facial laxity with minimal patient discomfort, Dr. Melissa A. Bogle reported at the annual meeting of the American Society for Laser Medicine and Surgery.

The findings validate the use of this treatment algorithm over single-pass, high-

energy radiofrequency skin tightening, which can be unbearably painful and has been associated with skin changes such as burning and scarring in some patients, she said.

In a study of 66 patients who were an average age of 53, with moderate facial laxity, Dr. Bogle and colleagues evaluated the impact of up to five passes over the lower face and neck with low-energy monopolar radiofrequency. "For all of the patients, we used a device with a 1.5-cm

tip and performed two full passes over the entire face, then, based on physician discretion, we performed up to three additional passes in certain areas that needed more attention, such as the jowl region, with a slight delay between passes to allow tissue cooling," said Dr. Bogle of the Laser and Cosmetic Surgery Center in Houston. "In all regions, we treated to a clinical end point of visible tightening and contouring."

The average treatment setting was 62

J/cm² per pulse at 220-720 pulses per minute (average 480 pulses per minute). "The higher pulse numbers produced more consistent, predictable results," Dr. Bogle said.

"We used patient discomfort as a guide to energy level. If a patient indicated feeling significant discomfort, we'd turn down the energy settings to minimize the pain experienced with each pulse."

Treatment efficacy was assessed using three measures: the Leal laxity classification system, which evaluates the type and degree of skin laxity on a six-point scale; skin stiffness and energy absorption levels obtained by the BTC-2000 dynamic skin analyzer, which measures the elastic deformation of skin at set points on the face during dynamic stress; and independent photographic review by blinded physicians.

At 4 months, with the skin laxity classification system, "95% of the patients had some degree of visible improvement in skin laxity, and at 6 months this number leveled off to 92%," Dr. Bogle said. In terms of the amount of improvement, "at 4 months 65% of the patients were categorized as having improvement in the good to very good category, with good being between 25% and 50% improvement and very good being 50%-75% improvement. At 6 months, this number dropped to 61%," she said. At 4 months and 6 months, respectively, 5% and 8% of patients had no visible results.

Skin stiffness, as measured by the BTC-2000, showed 75% improvement at 4 months and 35% at 6 months, Dr. Bogle said. "Similarly, in terms of energy absorption, or the amount of energy it takes to deform the skin, at 4 months, we saw 60% improvement. This dropped to about 25% at 6 months, but still was better than at baseline, she said.

Finally, according to the independent physician review, the overall 4-month and 6-month improvements were 75% and 84%, respectively, Dr. Bogle noted. "At 4 months, the middle face and the lower face regions showed similar levels of improvement, while at 6 months, the middle face was generally the most improved region, followed by the lower face." At both time points, the treatment was least effective in the upper neck region, with fewer than half the patients showing visible improvement in that area, she said.

In terms of adverse events, three patients had superficial crusting, which resolved in a few days without sequelae, Dr. Bogle noted. "Also, two patients reported numbness along the jawline at the 1-month follow-up, but it was fully resolved by the 2- and 4-month visits."

Although, for the purposes of this investigation, the multiple passes were limited to five total, "in practice we will usually do as many as 5-10 in addition to the initial full face passes," she said. "This gives the greatest cosmetic improvement, while keeping patient discomfort low because of the lower energy being used."

Dr. Bogle received a research grant for this study from Thermage, maker of the ThermoCool radiofrequency device used in the investigation. ■

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