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Skin laxity improvements seen vividly in neck areas

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Anaheim, Calif. — A single treatment with a nonablative radiofrequency device (ThermaCool TC System, Thermage Inc.) results in safe, mild to moderate tissue tightening of the neck with improvement in skin laxity, according to a study undertaken by researchers at the Washington Institute of Dermatologic Laser Surgery, Washington, D.C.



Dr. Alster

“Laxity of neck skin is a common cosmetic complaint of aging patients, but a surgical lifting procedure has been the only effective intervention for addressing the problem,” said Tina S. Alster, M.D., lead investigator for the study and director, Wash-

ington Institute of Dermatologic Laser Surgery. “Our experience indicates nonablative radiofrequency treatment is not a replacement for surgery. However, it appears to be a satisfactory alternative for patients with early, mild laxity, and those with more advanced changes who prefer not to have traditional surgery and are willing to accept the more limited benefit they can obtain with this procedure.”

Dr. Alster’s associate, Elizabeth Tanzi, M.D., presented the results of the study at the meeting of the American Society for Laser Medicine and Surgery.

The trial enrolled 20 patients aged 30 to 60 years old presenting with mild to moderate neck laxity and who had no previous cosmetic surgery procedures affecting the neck. The radiofrequency treatment was performed under topical anesthesia using fluences ranging from 72 J/cm² to 121 J/cm² and covered the area from the angle of the mandible to the lower portion of the neck.

Photographs were obtained at baseline,



After a single nonablative radiofrequency treatment, participants experienced mild to moderate tissue tightening of the neck and improved skin laxity.

immediately after the procedure, and on post-operative days one, seven, 30, and 180. Three masked assessors rated improvement using a quartile scale and patient assessments were gathered at each visit via a satisfaction survey.

Study findings

The procedure resulted in acute erythema and edema, which lasted no more than 30 minutes to a few hours, and the only other adverse event was early neck dysesthesia, reported by only a few patients and persisting no more than one week.

The investigator ratings showed all patients benefited with improvement in neck skin laxity, and the subjective satisfaction scores paralleled those findings. The majority of patients were judged to achieve a 25 percent to 50 percent improvement from baseline and a few patients had 50 percent to 75 percent improvement. The serial assessments showed some patients achieved profound, immediate improvement, but that tended to diminish at day one and likely reflected local edema. However, skin tightening was increased again at one week, improved further at one month, and then showed some decline by the six-month visit but remained better than baseline.

“The procedure results in bulk heating of the entire dermis while keeping the epidermis

cool with use of a contact cooling device. Its benefit in causing tissue tightening is thought to involve heat-induced collagen contraction, which occurs immediately, as well as stimulation of new collagen production over time,” said Dr. Alster, who is also assistant professor of dermatology, Georgetown University, Washington, D.C.

Overall, greater benefit was observed in patients who entered the study with moderate versus mild neck laxity, although that difference might only reflect greater ability to detect change in the former patients. Since the study population was small, it was not possible to identify whether other patient-related factors, such as age, were predictive of outcome.

Unanswered questions

Dr. Alster pointed out that nonablative radiofrequency treatment, in general, has many pros, but there are also cons and many unanswered questions about how it can be used clinically with even better results.

“This technology is still early in development, but I have been very impressed with it so far,” Dr. Alster said.

A major advantage of the radiofrequency treatment is its overall safety. Although there have been some reports of skin burns from

other operators who used the hand piece incorrectly, side effects and complications are rare, and patients of all skin types can be treated.

“Our study included patients with skin types I through IV only because they were the first 20 consecutive patients who were eligible for participation, but there were no problems with pigmentary changes among the women with darker skin types in the group, and even skin types V and VI can be treated safely,” Dr. Alster said.

Other advantages of the radiofrequency device compared with laser technology from the operator’s perspective include operation on standard AC electrical current, absence of plume and laser-beam hazards, and low cost.

Intraoperative discomfort is the primary drawback of the radiofrequency treatment. At the Washington Institute of Dermatologic Laser Surgery, patients are pretreated with a topical anesthetic cream applied under occlusion for 45 to 60 minutes. However, procedure-related pain is not completely mitigated, and that is a real concern because treatment of the neck can take 30 to 45 minutes.



After one radiofrequency treatment, greater benefit was more observable in patients who entered the study with moderate versus mild neck laxity.

“The manufacturer is upgrading the technology with a faster scanning handpiece. Consequently, treatment time will be reduced by at least half and that will be a welcome advance for minimizing discomfort. Meanwhile, there are some surgeons who are performing this procedure with IV sedation or nerve blocks,” Dr. Alster said.

Unanswered questions that are the subject of ongoing studies include what is the longevity of the improvement in neck-skin laxity, can better results be achieved by performing a second pass or with serial treat-

ments, and regard the optimal time to repeat the procedure. Patients in the original study are being offered a second treatment and new patients are given that option.

“At one month, most patients are happy enough with their results that they decline another treatment, but some have had a second procedure anywhere between one and three months after the initial procedure,” Dr. Alster said.

ThermaCool TC is a product of Thermage, Hayward, Calif. Dr. Alster and Dr. Tanzi have no financial interest in that company. **CST**