Laser Technique Zaps Focal Areas of Excess Fat

By Kerri Wachter

Lake Buena Vista, Fla. — Laser lipolysis without fat suction appears safe and effective for the removal of small volumes of focal fat, according to data presented at the annual meeting of the American Society for Laser Medicine and Surgery.

Based on MRI, patients who underwent laser lipolysis alone showed an average of 17% reduction in fat, said Karen H. Kim, M.D., a dermatologist in New York. Those treated under the chin showed the greatest average loss (25%); other areas averaged a 13% reduction.

In this study, 10 patients were treated with laser lipolysis using a Nd:YAG laser (Cynosure Inc.), and 12 were treated with laser lipolysis and the Tri-Active therapeutic laser massage device (12 treatments). There were also 10 control volunteers. The patients had unwanted fat less than 120 cc in volume. Cynosure provided equipment and funding for the study.

Treatment involves the use of a 1.064-nm Nd:YAG laser with a 100-µm optic fiber and 1-mm microcannula. The low-power laser produces a photothermal effect when in contact with fat. Dr. Kim said. Treated fat was allowed to drain naturally in the patients. The Tri-Active device was used on 10 patients to facilitate drainage.

Of the 30 patients enrolled, 29 completed treatment. The area under the chin was the most commonly treated area. Total energy ranged from 758 J to more than 7,000 J. Greater energy was used at larger treatment sites, Dr. Kim said.

At 3 months, patients who received treatment considered the treated area to have improved 17% on average, based on observation.

For those treated with the Tri-Active device and for the laser lipolysis only group, the figures were 47% and 33%, respectively. The most common side effects were bruising, swelling, and tenderness.

The technique seems to be well suited for the treatment of focal areas of excess fat, Dr. Kim said. She and her colleagues are planning a larger multicenter trial using the technique.

This technique has been used in South America, Europe, and Japan. Previous studies have shown that it destroys more adipocytes than cannulation alone.

Photopneumatic Device Shows Early Promise

Lake Buena Vista, Fla. — An experimental light technique using pneumatic pressure treats unwanted hair, photodamage, and pigmented and vascular lesions with greater efficacy and safety than do comparable techniques, according to research presented at the annual meeting of the American Society for Laser Medicine and Surgery.

Photopneumatic pixilation combines vacuum pneumatic energy with a broad-band light source, allowing four to five times the energy of other laser and light source techniques to be transmitted to the target area, said Vic A. Narurkar, M.D., a dermatologist in New York. As a result, lower wavelengths can be used.

The investigational device was provided by Aesthera Inc. Dr. Narurkar has equity in the company and is also on its medical advisory board.

The device works by switching from positive to negative pressure once in contact with the skin, essentially sucking the skin closer to the light source. “During this 2-second phase of vacuum application, the blood concentration and melanin concentrations are reduced. So theoretically, every skin type behaves as what I like to call skin type zero,” Dr. Narurkar said.

In the instant that light is applied, fluences are about one-tenth what would be used with competitive technologies. As a result, there is very selective destruction of the targets. Finally the skin is released.

The treatment area is fairly large and the technique rapid, allowing treatment of the back in about 15 minutes and a hand in 2-3 minutes, Dr. Narurkar explained.

Dr. Narurkar said he has completed a 60-patient trial with promising results. Beta testing of the device is ongoing.

—Kerri Wachter