

Cosmetic Surgery Times

Noninvasive fat melting: the facts and the fantasy

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Dr. Young

Montreal - As any Internet search will reveal, nonsurgical, minimally invasive procedures that claim to melt away fat beneath the skin are gaining in popularity. While the techniques have been available in Europe and other countries for decades, they are relatively new to the United States, and as yet not FDA approved. Proponents of the techniques rave about safety and efficacy, but several experts remain skeptical.

Lipostabil, one such alleged burner of fat, is the tradename for an intravenous preparation of phosphatidycholine manufactured by Aventis (Strasbourg, France).

According to V. Leroy Young, M.D., chair of the Emerging Trends taskforce for the American Society of Plastic Surgery and president of the Body Aesthetic Plastic Surgery & Skincare Center in St. Louis, Mo., "I think there is a theoretical chance that Lipostabil works. It could either activate lipase, which could break down fat and then mobilize it from a local accumulation. The other mechanism that it could work by is it's a bipolar molecule, so it could dissolve fat."

Another purported fat melter is collagenase, an enzyme that breaks down connective tissue. "There's been a clinical trial on injecting lipomas with collagenase," said Dr. Young, "and one shot resulted in about a 50 percent to 80 percent resorption of the lipoma. So, collagenase does seem to be able to locally break down fat."

Another fat melting technique that has enjoyed years of popularity in Europe and elsewhere but is only just coming to the attention of American physicians is mesotherapy. Marion Shapiro, D.O., has performed mesotherapy on more than 1,000 patients from her Madison Avenue and New Jersey offices after learning the technique in France. The procedure involves injecting various drug cocktails, including aminophylline, novocaine, as well as various plant extracts and vitamins into the mesoderm area of the skin.

"For overall weight loss, we inject all over the body," Dr. Shapiro said. "That causes a general dissolution of the fat all over the body week by week. Patients can expect to see anywhere from one to two dress sizes lost. For spot weight reduction, we just inject the body where the patient wants to lose the fat. We use a different kind of medication to melt the fat based on the area we're treating. For cellulite we need not only to melt the fat, but also break the banding under the skin, so we use yet a third combination of medications to help that, and then we inject where the cellulite is, sort of microcosmically in very small injections."

Several injections, up to 150, are performed at each session, and most patients require approximately 10 sessions to see the results they want. The most common adverse event is bruising, which is temporary. Allergic reactions are another potential problem, but Dr. Shapiro uses patch testing to minimize this possibility. She has not seen any other adverse events, although some cases of skin infections were reported with mesotherapy in Europe in the 1990's. The procedure, she says, works on 95 percent of patients.

Getting rid of needles Transdermal electroporation could make the injections associated with mesotherapy obsolete. Jeff Zeldin heads Turnwood International, a Toronto-based company that, in collaboration with Italian manufacturers, plans to bring a type of transdermal electroporation called Acthderm Pulse to North America. "It's a way of transdermally introducing product into the skin without using needles," he said.

According to Zeldin, the device includes a pointer that, when placed against the skin, delivers an electric pulse that opens the pores deeply for about two to three minutes. A rollerball device is then used to deliver a topical product under the skin surface. "The product itself is positively charged, and then you've got a positive charge running from the machine into the rollerballs, where the product goes through," he said. "So, positive and

positive repel, so it's actually pushing the product into the skin."

A final form of melting fat nonsurgically is ultrasound. Two companies are marketing or planning on marketing noninvasive ultrasound fat-melting devices in the United States, Israel-founded UltraShape and Bothell, Wash.-based LipoSonix. Jens U. Quistgaard, president and chief executive officer of LipoSonix spoke about the company's technology, which he hopes to market in the United States within two years.

Are these nonsurgical fat melting technologies too good to be true? Some experts think so. One nagging question is, What happens to the fat once it has melted away? According to Dr. Young, if the patient does not exercise or eat less in order to burn it off, it will just get deposited elsewhere on the body.

"My view of these things," he said "is, let's say you have a little love-handle area or something, you might be able to treat something like that with it, and improve your contour and redistribute the fat over the rest of the body. But if you've got a lot of extra fat, then you've got to go about it the hard way -- not eat and exercise."



Dr. Shapiro

Dr. Shapiro claims otherwise, however. She said that with mesotherapy, "we stimulate the fat cells to release fat and then our body processes it naturally as if we were losing weight, and what we find in our patients is that their cholesterol drops anywhere from 20 to 40 points, and that's because they're shedding fat from their body, and the fat is not going to their heart."

According to Quistgaard, the fat that is melted away with ultrasound, "is either taken up through the body's immune system through phagocytosis or it drains typically through the lymphatic system." Their ongoing human trials show no signs that the fat is deposited elsewhere, although he acknowledges that further study is required to confirm this.

Science must define technologies Another problem with these technologies is the lack of good, peer-reviewed studies demonstrating their efficacy, at least in English. Proponents of the various technologies say that there is plenty of good clinical evidence for their safety and efficacy -- in French, Italian, and Spanish.

William P. Coleman III, M.D., clinical professor of dermatology at Tulane University School of Medicine in New Orleans, is not convinced, however. "We always hear that [there are good studies available in foreign languages]. ... I've been to meetings and lectures in South America and France, and seen mesotherapy for at least a decade. So far, I have not seen anything there that's impressive at all. I think it's just a gimmick."

The good news is that, effective or not, most of the experts agree that all these procedures appear to be quite safe. Dr. Coleman has some concerns about the safety of Lipostabil, however. "Lipostabil, we have no idea if it's really safe or not," he said. "No one's done any toxicology studies."

Proponents of the various techniques stress that one cannot expect to obtain positive results unless one is well-trained in the procedure. Dr. Shapiro said mesotherapy is not an appropriate sideline, since treating only a few patients per week does not allow a physician to gain the experience required to do a good job.

"For doctors who are interested in doing mesotherapy, they really should train properly," she said.