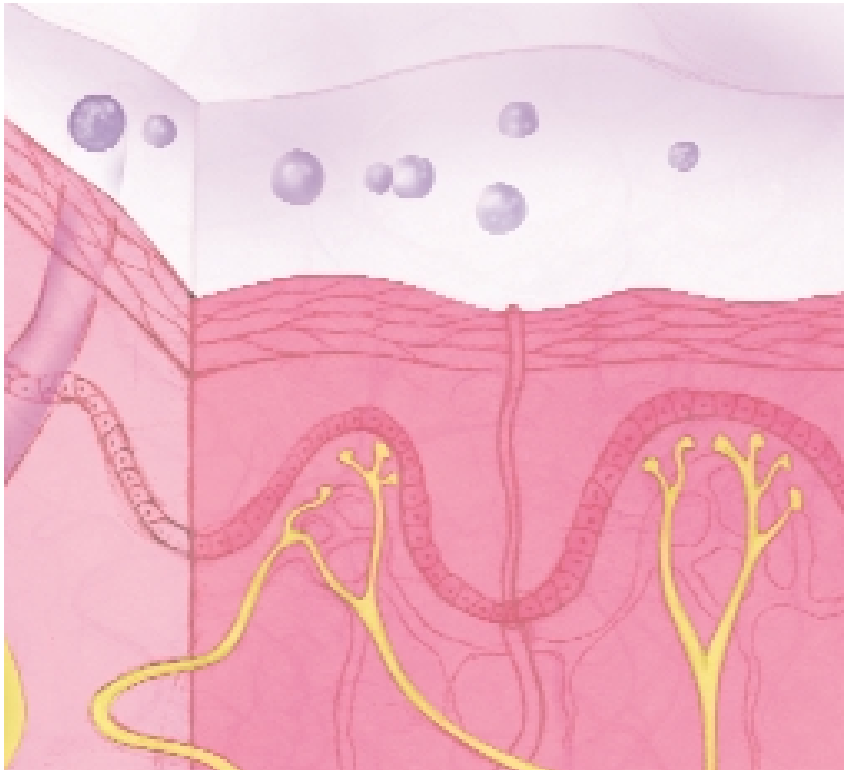


COSMETIC Clinic



Mesotherapy: Will it Prove Safe and Effective?

BY KENNETH BEER, M.D.



Recently, interest in mesotherapy has dramatically increased as a multitude of practitioners have begun to perform this procedure with a multitude of formulations and a multitude of results. Mesotherapy, touted as non-surgical, permanent method for fat removal, is being embraced by some physicians and questioned for its legitimacy by others. However, the explosion in popularity has happened, though mesotherapy has not yet appeared on Oprah (if it does, there will be a flood of patients and physicians requesting information). So, as popularity continues to grow, it's important to understand how the therapy works and what side effects may result.

Simply put, mesotherapy involves injecting various types of medications and plant extracts into layers of fat and connective tissue under the skin with the object of dissolving fat. The liquids are introduced into the subcutaneous space using infiltration

cannulas or needles. Typically, the materials are manually injected using a syringe. There are no standardized protocols for this procedure, no standard equipment used and, unlike tumescent liposuction, there is a dearth of information regarding what methodology is the best for the treatment.

WHO CAN PERFORM MESOTHERAPY?

This depends on state and local regulations. As with any cosmetic procedures, there are no regulations on who can perform this treatment. So, as with other cosmetic procedures, physicians, nurse practitioners and physician assistants are doing mesotherapy. Some of these people are trained with weekend courses that are being promoted much the same way that the fake botulinum toxin was promoted (we receive blast faxes from companies offering huge profits with virtually no training). As a result of this lack of regulation, there is a swarm of practitioners that are suddenly mesotherapy "experts." I know of a pathologist that is doing mesotherapy, though he never treated a live patient until he retired to Florida.

WHAT IS BEING USED FOR MESOTHERAPY?

So far, no drug is FDA-approved for use in mesotherapy. Again, since there is no regulation, anything can be used. According to the American Society of Plastic Surgeons, injected ingredients may include agents that are used to open blood vessels, non-steroidal anti-inflammatory medications, enzymes, nutrients, antibiotics and hormones.

In the best scenario, materials such as phosphatidylcholine, caffeine, collagenase and other materials are used in amounts that are safe and won't hurt patients. I can imagine that somewhere in Los Angeles, there are patients and providers that are ordering their mesotherapy ingredients with an extra shot of espresso from their favorite coffee shop. I wonder if you can get that in a fat free formulation?

In the worst scenario, materials that were not designed or prepared in pharmaceutical production facilities are being introduced to the body with a variety of results. The product that has gotten the most attention is Lipostabil, a phos-

phatidylcholine, which was used in Brazil for mesotherapy, and was banned by the Brazilian government in 2003 for lack of efficacy. Recent studies suggest that it may not be the phosphatidylcholine that is effective in this formulation but rather the deoxycholate that is a detergent added to increase solubility.¹

Some of the ingredients used may cause anaphylactic reactions so it is only a matter of time before the literature reports complications due to mesotherapy. In addition, since formulation is totally unregulated, it is predictable that there will be complications from a variety of infections and that some of these may be fatal. That may result in some regulatory interest much the same way that regulators were interested in the botulinum toxin that was marketed after people were hurt by it.

COMPLICATIONS SEEN FROM MESOTHERAPY

There are both known and potential complications from mesotherapy. Known complications from mesotherapy stem from reactions to ingredients, infections and reactions to instrumentation. Reactions to ingredients may be anaphylactic (resulting in death if the office is not prepared for this reaction), allergic or foreign body/inflammatory among others. Infections resulting from mesotherapy may result from contaminated ingredients or improperly sterilized instruments. Bacterial, fungal and atypical mycobacterial infections have or will result from this form of treatment. Foreign body reactions may be predicted to occur as practitioners push the envelope of home formulation (again, think about the problems that have been seen

EXPERT OPINION: MORE RESEARCH NEEDED

The American Society for Dermatologic Surgery (ASDS) has actively tried to promote public awareness about mesotherapy and is at the forefront of trying to protect patients. In a January 2005 ASDS Emerging Technology Report, the society concluded that though mesotherapy is growing in popularity, a lack of published studies exist to confirm the safety and efficacy of the therapy. In its report, the ASDS said, "Controlled research to determine the optimal formulation and treatment regimens as well as the safety, efficacy and further insight into the mechanism of action of this procedure is strongly encouraged. The ASDS and its members look forward to further developments and continue to support scientific documentation."

The American Society of Plastic Surgeons (ASPS) also released a statement last month that mesotherapy has yet to be proven safe and effective. An April 2005 ASPS Device & Technique Assessment Committee report warned that patients should be wary of mesotherapy until published scientific studies demonstrating its effectiveness are published. ■

as a result of injecting reconstituted botulinum toxin formula for a preview) and one can imagine the reactions to talc, starch, etc.

Complications resulting from technique or instrumentation may also result in problems for patients. Since there are no standard instruments or techniques, the procedure is dependent on the skill and experience of the person performing it. Most likely, if this individual has knowledge of liposuction and dermatologic/plastic surgery, they will understand the layers of the skin and subcutaneous tissue. If not, all bets are off. Potential complications that may be expected in the future include embolism (both air and fat) since it is most likely inevitable that someone will interact with a medium sized vessel in an adverse manner.

I have seen a few complications from mesotherapy, most of which are minor and include some scarring and hyperpigmentation. To date, the most interesting complication I have seen is one that I have nicknamed "Bar Code Butt." This

complication was recently seen in a woman in her 20s who had undergone mesotherapy with a practitioner that had no experience in dermatologic or plastic surgery, but decided to get into the cosmetic game. Apparently, he used a warming fluid or device that burned the skin of her buttocks in stripes (the operative note is illegible and brief so it is not possible to sort this out). Since she has type IV skin, this resulted in post-inflammatory hyperpigmentation and scarring.

WAITING FOR CLINICAL PROOF

Despite the controversy and questions about it, mesotherapy is here for the time being. If it is proven safe and effective, it will be here to stay and will be a welcome part of the dermatologic surgery repertoire. I am waiting to participate in clinical trials sponsored by reputable companies with IRB approval and to see what the leaders in the dermatologic surgery community say about their experiences before I jump on the band wagon. ■

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Disclosure: Dr. Beer has no conflict of interest with any subject matter discussed in this month's column.



Patient before (above left) and after (above right) undergoing mesotherapy treatment. Photo courtesy of KMR Communications, Inc.