Mesotherapy has been described as a treatment for anti-aging, weight loss, cellulite and fat deposition. In your view, what are the primary indications?

It is important to first define mesotherapy because there is a great deal of confusion as to its precise meaning. Mesotherapy simply describes a technique whereby mixtures of medications are injected directly into affected areas so that systemic medical treatment is avoided. It was originally developed by a French physician, Michel Pistor, in the early 1950’s for pain. Over the past 50 years, a wide number of compounds have been used to treat diverse medical disorders as well as cosmetic conditions. The precise combination and proportions of ingredients (i.e., a mesotherapy “concoction”) are based upon theoretical benefit, anecdotal reports, and/or a physician’s experience. There is little empirical data in the literature. Thus, there is no true “primary indication” for mesotherapy.

Today, mesotherapy is most commonly used to treat cellulite and localized fat deposits. Along with Dr. Alison Avram, we recently reviewed the most common ingredients used in mesotherapy for the treatment of cellulite. Although there is experimental evidence to suggest the inclusion of several of these components in mesotherapy, there are currently no peer-reviewed studies to substantiate these findings clinically.

On the other hand, a mechanism of action and clinically evident fat dissolution using deoxycholate, with or without phosphatidylcholine, has been published in a number of peer-reviewed reports. These deoxycholate treatments have become associated with mesotherapy but we prefer to think of them as treatments with a distinct history and with a stronger foundation in the literature than “traditional” mesotherapy for localized fat loss.

Dr. Rotunda’s basic science and clinical studies have demonstrated that deoxycholate produces fat dissolution. Contrary to prior belief, deoxycholate, rather than phosphatidylcholine, is the active ingredient producing fat dissolution.

Could you briefly describe the process of mesotherapy?

Traditional mesotherapy techniques developed in France are categorized primarily by the type of movement of the syringe across the skin and the depth of medication delivery. Different techniques call for the use of 30-gauge needles of 4, 6, or 13mm in length. For example, the “tremor” technique calls for a very rapid delivery of shallow injections using 4mm needles across the skin with the aim of delivering the solution into the epidermis only. This is typically utilized for “facial rejuvenation” using ingredients such as...
multi-vitamins, tretinoin, and hyaluronic acid. This differs from other techniques such as “multi-pricking” and “intra-hypodermic,” which distribute medication into the dermis and subcutaneous tissue, respectively. Again, the “traditional mesotherapy” techniques differ from the injections used for localized fat loss using detergents, such as deoxycholate, that are injected directly into the subcutaneous adipose tissue.

Q: How would you describe the effects of mesotherapy? How is it an improvement over other methods, such as liposuction?

A: It’s important to note that there is no convincing data to support the use of “traditional mesotherapy” or deoxycholate for cellulite. On the other hand, injections of deoxycholate, with or without phosphatidylcholine, have been shown to produce clinically evident fat loss in a number of open-label trials. Randomized, blinded studies are currently underway. These treatments will not replace liposuction. They are designed for patients desiring local fat loss that does not warrant liposuction for such conditions as lipomas, lipodystrophy, and cosmetically unappealing localized fat accumulations.

Q: Who are ideal candidates for mesotherapy? How many treatments are required?

A: Healthy, non-obese individuals with small collections of fat, i.e., on the abdomen and chin, are the best candidates. Prior to treatment, patience and realistic expectations should be emphasized to avoid patient disappointment. Depending on the amount of solution injected per session, clinical results are relatively slow (about three to five monthly treatments are required).

Q: What are the most common side effects?

A: As with any invasive procedure, safe injection practices are crucial to avoid some of the side effects that have been reported in association with mesotherapy and deoxycholate injections. These adverse effects include persistent skin reactions, subcutaneous nodules, and localized skin infections. There have been several case reports of mycobacterial infections associated with mesotherapy.

—Gary P. Lask, MD
Section Editor