



MESOTHERAPY

Mesotherapy is best defined as the introduction of a solution under the skin in an effort to melt fat. From that simple definition flows a great deal of misinformation and bad things that can happen to patients. Unlike many other procedures, there is no “standard” formula used for mesotherapy. This means that physicians (and others) are left to devise their own cocktails with which to proceed. Fueled by a competitive market, practitioners sometimes use materials that are either not safe for humans, not approved for humans, or not sterile.

WHO PERFORMS MESOTHERAPY

In some instances, the people using mesotherapy are not from specialties that perform liposuction so they have no formal training about sterile technique with this related procedure or patient management with large volume fluctuations. In addition, they may be practicing in a medspa environment with no formal safeguards or regulatory guidelines in place to protect patients. Add up all these and there is significant potential for patient badness.

UNWANTED EFFECTS

The types of patient badness that can occur include:

- Scars
- Embolism
- Infection
- Lumps
- Bumps
- Pain
- Pigment
- Discoloration
- Death

In my practice, I have had the displeasure of seeing patients **scarred** when mesotherapy was performed by a retired pathologist (I guess branching out into the living when retired is his new thing) and Dr. Jill Waibel and I have documented a mycobacterial infection from mesotherapy performed by a pain management physician (Disclosure: I do not perform mesotherapy). As I write this, a nurse is in a coma at Cleveland Clinic Weston Where is this? Following a procedure performed by a non-specialist.

Lumps and bumps are probably the most common complication from mesotherapy. They can result when the solution is distributed unevenly or when the solution is not homogenous and has different effects in different zones. Concentrations vary when the mix is not homogenous and one area may have totally different materials from an adjacent one. This can lead to significant differences in outcomes by region.

Lumps and bumps may also occur when uneven mesotherapy is performed. Because the procedure is performed blindly, the outcome depends upon the skill and training of the person doing it. Mesotherapy is probably most similar to liposuction so the people that have had training with the tumescent technique have an advantage as some of the skills transfer. Bad things with mesotherapy tend to happen to patients who are going to people lacking the skills or background to perform tumescent anesthesia.

Infections also occur any time the skin is breached and mesotherapy is no exception; however, with mesotherapy, there is increased residence time of an extemporaneously compounded product with an unsure sterility under the skin. This is an invitation for bacterial, mycobacterial, and fungal infections to occur. Although the instances of infections with this procedure are probably low. When they do occur, they can have devastating consequences. The case that we treated had a mycobacterial infection, requiring several draining procedures as well as antimicrobials. Ultimately, the patient healed but she now has lifetime scarring from her ordeal. Staphylococcal and gram-negative infections are also likely in this procedure when the products are not prepared correctly. Inadequate patient screening (such as treating diabetics or immunocompromised individuals) can also result in infections.

Pain is another potential sequela of this procedure. Materials are introduced with either needles or cannulae that can cause damage or irritate some of the nerves. Pain may also be caused by damage to the skin and subcutaneous tissues by the solution. Because the theory of mesotherapy involves dissolving fat (frequently with detergent actions), fat necrosis and saponification are possible and both of these can cause pain from the injury to the subcutaneous tissue. Fortunately, as with liposuction, the incidence of pain from mesotherapy must be quite low as there are not epidemics of post mesotherapy pain.

CONCLUSIONS

Bad things happen with any procedure performed by any physician. As with anything in medicine or surgery, the only way to avoid risk is to have nothing done and this simply is not reality. Mesotherapy has, to date, no standard formula or methodology with which to proceed. In addition, there is little data to support its use so that patients are left to their own for determining the efficacy and training of the person performing the procedure.

In general, the lack of data and lack of training tend to be factors in bad patient outcomes. Mesotherapy seems to be no exception. One other factor that will help to reduce the risk of badness depends upon a company producing a sterile product or device that can safely and predictably achieve the results promised by mesotherapy. Until this occurs, it is likely that mesotherapy will be associated with markedly variable results.

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