Commentary on: Abdominal Subcutaneous Mass After Laser-Assisted Lipolysis and Immediate Multiple Treatments with a Dual-Wavelength Laser, Vacuum, and Massage Device

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No one can question the benefit that properly administered light- and energy-based therapies provide aesthetic patients. A “pioneer” forwarding aesthetic technology is often subject to resistance and close scrutiny by their colleagues, and rightfully so. However, if not for such visionaries, we may be without the benefit of advances such as non-invasive body contouring, laser hair removal, photo-rejuvenation, and photodynamic therapy, to name a few. Ablative skin resurfacing, the rave of the 1990s has evolved. Microablational delivery is now available that when performed correctly, may shorten the initial recovery. Acceptance of technological advances progresses from their initial presentation based on patient results, feedback, manufacturers’ product evolution, and most important, peer reviewed articles.

The surgeon has an “artistic license” when treatment is not conforms to published stands. In this situation, the physician has an obligation to keep patient safety at the forefront, regardless of a potential benefit. Clinical studies often utilize an independent review board to ensure patient safe protocols. Whenever I consider a procedure that is not corroborated by peer reviewed articles as I explore new technology, the wisdom of my mentors, Drs. Robert Chase and Donald Laub echo in my mind. Be true to the basic principles of surgery and wound healing. Historically, this translates into ensuring adequate blood flow to a flap, minimizing skin tension and trauma to the surgical area, optimizing hemostasis, providing adequate immobilization when appropriate, personally examining the patient after surgery, and thoroughly investigating any unexpected outcomes.

In the light- and energy-based therapy venue, there are no such basic principles to fall back on when combining technologies. It seems as though every day there are new energy sources, delivery systems, and protocols, which seem promising. The aesthetic provider has an expanded arsenal of evolving options that, while efficacious in a confirmed format via peer reviewed papers, lends to an extrapolation of the original intent. Laser hair removal was “discovered” as a side effect of tattoo removal. The evolution and efficacy of using light, radio frequency, and laser energy to reduce unwanted hair was subsequently confirmed by peer reviewed publications.

In this case report, we are at a disadvantage as the primary information is based on the historical perspective of the patient. Regardless of the exact details, three questions come to my mind. What is the value of not aspirating the liquefied fat after laser lipolysis? When the abdominal budge was first noticed approximately two months after surgery, why were more SmoothShapes (Cynosure, Inc., Westford, MA) treatments ordered vs performing tests such as an MRI, CT scan, or ultrasound of the region to clarify the clinical presentation? Why would a surgeon perform...
mechanical treatment via the SmoothShapes device, which provides additional physical trauma on a freshly treated area and a persistent, isolated abdominal bulge for a year?

There are no peer review articles that document the time spent aspirating the liquefied fat after lipolysis is a significant, negative component. References advocating such therapy do not reflect treating an entire abdomen. In contrast, Jewell felt that performing laser lipolysis added time to his normal liposuction procedure. Peer reviewed studies with larger study populations document that aspiration of liquefied fat following laser lipolysis was part of their protocol.

Thus, this concept falls into an “art form” category. Items that should factor into implementing this concept would include the treatment location, total laser energy provided, patient physiologic factors, and volume of the area treated. In addition, patient compliance and the need for compressive garments could be important considerations. Thus, the lack of aspiration following laser lipolysis may have contributed to this complication.

When a patient demonstrates a “new” isolated bulge two months after surgery, this is a significant, unexpected event. Multiple review articles dealing with liposuction and outcomes, including laser lipolysis as a technique, did not describe a pseudocyst as a complication. Given the timing of presentation, I would not discount this observation as postoperative swelling. As I read the article, my first reaction before viewing the photographs was that the patient developed, in order of probability; an abdominal hernia, seroma, or hematoma as potential diagnosis. If I was practicing with an “artistic license,” such a clinical presentation would lead me to question the patient’s interim physical activity at a minimum. Ordering an MRI, CT scan, or ultrasound test would be the first recommendation. This unanticipated clinical situation is difficult for both the patient and physician. Patient-doctor communication is critical in this setting. Unfortunately, what actually transpired is unknown. Perhaps the initial treating physician recommended such diagnostic options and the patient refused. If this were the case, then suggesting a second opinion early on may have facilitated resolution sooner. The physician is at a disadvantage in that occasionally, patients do not disclose all potential voids regarding postoperative, recommended protocol. In this case, providing an additional year of SmoothShapes treatments was not the correct pathway for this condition, as forwarded by the patient.

The only reference the authors provide advocating SmoothShapes treatments immediately after laser lipolysis is a webcast provided by Martin. In a similar mindset, Graivier provides a single patient, white paper result showing the benefit of SmoothShapes, treating one thigh just prior to liposuction (method of liposuction was not disclosed) and then a series of six, post-liposuction SmoothShapes treatments to the same thigh. Device settings were provided but no comment was made concerning the operator component regarding the delivery technique. The one-week pictures of the SmoothShapes vs control side results are dramatic. However, a critical picture missing in the photo sequence is the picture of the thigh treated with the SmoothShapes device prior to the first post-liposuction SmoothShapes treatment. Assuming the one-week picture shown is prior to postoperative SmoothShapes treatment, this would reflect the potential advantage of using this device before liposuction vs the advantage of the using the device after surgery. Conceptually, this question would have been addressed as part of a peer reviewed, case report publication.

After viewing Dr Martin’s webcast, more questions come to mind. His implementation of SmoothShapes treatments after laser lipolysis changed the way he does laser lipolysis. Did he change his standard laser lipolysis procedure or did the addition of SmoothShapes therapy immediately after surgery represent the treatment change he forwarded? Comments made during the presentation are very enticing “…makes surgical patients happier … faster results … reduces pain, inflammation and bruising …. smoothens cellulite that can be exacerbated by surgical procedures … eliminates dents caused by patient misuse of compressive garments …. reduces patient requests for re-dos or touch ups …” This is the experience of Dr Martin and his patients. However, without peer reviewed papers to support such claims, viewers are dependent upon contacting Dr Martin for further clarification.

Publications demonstrating the efficacy of the Smooth- Shapes device for the treatment of cellulite are based on treating areas that were not preemptively affected by any other technology. Does the scientific evidence within these articles extrapolate to the use of the SmoothShapes device in a clinical environment altered by a procedure that changes the regional anatomy, blood supply, and lymphatic drainage? Controlled studies would provide answers to this question. Dr Martin’s trained staff perform SmoothShapes treatment often on the day of surgery, and he recommends 6 to 8 treatments over 2 to 3 weeks after surgery. Advantages stated are a reduction in pain, bruising, and swelling. The patient picture example demonstrating an improvement in bruising is the same patient illustrated in Dr Graivier’s white paper, whose protocol differs from Dr Martins as stated in his webcast. Parameters afforded by the SmoothShapes device that could influence efficacy include the laser diode energy setting and suction intensity. Beyond device settings, there is also the operator component of using the SmoothShapes device. The physical pressure applied to the skin and rapidity of motion represent mechanical trauma. Conceptually, the extent of the laser lipolysis procedure combined with variable device settings and additional physical trauma could worsen the recovery process or lead to complications. Adding additional trauma to a traumatized area to improve results is an “art form” that requires further investigation.
In the webcast, Dr Martin recommended training for such combination therapy. Did the initial physician reach out to Dr Martin for his advice and training? I could not find peer reviewed articles where Dr Martin or others described the practice for such combined therapy with these technologies. The value of submitting one’s protocol, documenting their “artistic license” for publication is that the author gains insight and input from the peer reviewed clinicians familiar with the topic. The published product provides a reference that others can follow and minimize complications.

In summary, pioneers are needed in all venues of medicine. An innovative idea should be submitted for publication to clarify the concept. Physicians providing care with an “artistic license” should be very diligent when an unexpected complication arises. This paper brings to light many salient points that clinicians need to fully understand when they provide care for their patients when relying upon the “artistic license” protocol of other physicians.

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REFERENCES