Volumetry: A New Dimension in Contouring the Massive Weight Loss Patient

Bariatric Times (2011)8(1):8-11

Abstract
Massive weight loss patients may become volumetrically challenged, in a landscape of skin excess and overhang, significant tissue redundancy may develop, particularly in the face, breast, and buttock areas. Strategies for volumetric decortication and enhancement depend on the use of contaminant injectable fillers, fat grafting, fat rotation, and shifting of tissues from a site of excess to one of deficiency.

Introduction
Adding volume to one of the last things one would think would involve a patient who has undergone massive weight loss would most likely be the volume in the breasts. As the volume of the face decreases, the skin becomes more lax and the local fat pad is opalescent. The skin of the brows may descend into the eyes causing fatigue and skin excess of the upper lids, cheeks may descend causing an elongation of the lower eyelids, the jawline may appear more prominent and pouted, and most notably, the neck may appear more full with less definition between the neck and the jaw. Cosmetic treatment includes injection of fillers, fat grafting, lifting, tissue suspension with suspension in face, and necklifting I. These treatments may be performed as standalone procedures but may be used to great advantage when combined into the overall plan of care.

Fillers
Most Fillers are off-the-shelf products and include those made with hyaluronic acid (e.g., Juvedermul, Allergan, Irvine, California), Perlane (Medis Dermastats, Scottsdale, Arizona), and Restylane (Medis Dermastat, Scottsdale, Arizona) or poly-L-lactic acid (e.g., Sculptra, Sanofi-Aventis, Bridgewater, New Jersey).

Hyaluronic acid fillers are indicated for correction of moderate-to-severe facial wrinkles and folds and can be used to blunt redundant folds between the nose and lip (nasolabial folds) and to plump lips thin that may have thinning corners of the mouth due to large volume of fat in the presence of the face. (Figure 1)

The polylactic acid products are used to plump up flattened, dessicated cheeks and the areas around the eyes, and treating these areas subsequently can lift the lower part of the face, which improves the overall appearance.

Fat Grafting
A patient’s own fat may also serve as the filler, and this fat is in volumes of approximately 10 to 50cc can be used to fill the nasolabial folds (nasal ala, nasolabial fold), periorbital, or in combination with fillers (Figure 2). Fat grafting is a small operative procedure that can be combined into larger body contouring procedures. Fat is harvested from the abdomen or thigh, concentrated with removal of fluid components of the aspirate, and transfused into the face. The graft fat will incorporate almost completely into the recipient site. When treated to extreme degree of volume and surgical fat-augmentation is required, fat grafting can easily be incorporated into the procedures.

The Breast
The female patient who has undergone massive weight loss may incur significant definition with placa, medial displacement of the nipple, ptosis, crease anomalies, and sliding of the inframammary folds (IMFs). As the full component of the breast tissue is the breast skin, it is critical to understand the breast skin. Corrective options for the breast include breast implants (implantation, augmentation with fat grafting, augmentation with breast implants, and combinations of these procedures (Figure 3). Massive weight loss or breast implants can be combined with areola and repositioning of the skin around the existing breast tissue. The underlying breast tissue may be managed to transfer redundant tissue from under the arm to the central breast area as an autotransplantation, and the tissue is stabilized to avoid dehiscence and donut (Figure 4).

Fat grafting is a new addition to the breast augmentation armamentarium, and hundreds of millions of purified fat can be transferred into the breast during the procedure with no contusion, and pristine results. This is a new technique, and there is no much data yet available on it. In 2015, Pendaris and Metzger published that the available literature on this procedure provides largely of case reports and case series, with no controlled trials. Therefore, outcomes that have not been measured in a standardized way. Concerns have been raised that the placement of multiple adipocyte and adipocyte derived cells into the mammary are problematic for the breast area, and there have been no clinical trials that have investigated this process, and a consensus regarding the basic science is developing.

The Buttock
The massive weight loss patient has increased vertical height between the upper back and the buttock, an area of tissue that was previously not considered. The volume of fat from the buttock area following weight loss becomes deflated and redundant tissue bulges the buttock below it, Massive weight loss patients pursue bulking with adipose autologous or adipose autologous to the buttock, continues with a beneficial to the buttock and the outer thigh. In some cases, there is so much redundant back tissue, that it can be recycled to create an autologous implant for the buttock (Figure 5). Provided circulation the superior and inferior gluteal arteries, autologous gluteal fat provides a patient’s own tissue provides a solution to the deflation of the buttock A White gluteal implant can be used to treat deflation of the buttock in the autologous. Harvesting the material for augmentation from directly from the patient’s own body and injecting it into the gluteal mass and subcutaneous fat should be considered as an option before synthetic implants.

Conclusion
Patients who have sustained massive weight loss may seek corrective surgery for excess or hanging skin due to volume loss. The pubic area, the abdomen, breast, and buttock areas are particularly susceptible to volume deficiency after massive weight loss. Options include use of fillers; autologous tissue, including grafts and flaps; and implants to order in patients to adequately achieve a youthful, healthy body.

References
5. Tagg SF, Fillers, gastric bypass, weight loss

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