Modern Solutions to Traditional Problems and Complications of Gynecomastia

Dennis J. Hurwitz and Ahmed Taha Darwish

Introduction

The problems following correction of gynecomastia relate to poor healing or treatment that is inadequate or unsatisfactory. Gynecomastia is benign enlargement of the male breast, with a 36% incidence [1]. The psychological burden is depression, anxiety, and social phobia [2, 3]. The aesthetic goal is subtotal glandular reduction, with proper position and shape of the nipples, obliteration of inframammary folds, and tightly adherent chest skin reflecting underlying the musculoskeleton [4]. Extensive skin reduction scars detract and pectoralis muscle expansion enhances the result.

Poor healing may be caused by hematoma, seroma, wound separation, or necrosis of skin or fat. A high incidence of hematoma and seroma are due to operating through a confined approach and leaving widely undermined tissues. Avoidance is through meticulous electrocautery hemostasis and diligent compression through drains and elastic garments. Through reduced bleeding and retention of considerable fibrous connective tissue, ultrasonic-assisted lipoplasty (UAL) is rarely complicated by hematoma or seroma. As such, suction drains are reserved for open resections. The treatment of hematoma is by liposuction evacuation or seroma by sterile needle aspirations. Recurrent seroma is treated by percutaneous drain insertion. Secondary infection demands drainage and perhaps debridement with appropriate antibiotics. Mature seroma cavities require resection of lining and suture closure of the dead space. Nipple areola

(NAC) or skin loss along closure and contour deforming require reconstructive surgery. Even with excellent primary healing, hypertrophic scars and/or asymmetry may follow periareolar and medial chest closure (Fig. 17.1).

Unsatisfactory treatment includes incomplete or excessive resection, residual skin laxity, and disturbing scars. Aggressive ultrasonic probes can remove some fibrograndular tissue, but the residual mound of palpable gland must be directly excised via a transareolar glandular pull-through resection. Overresection leaves contour depression, typically either a central doughnut hole or a perimeter step-off. A thick button of subareolar breast tissue needs to be left on the areolar flap to avoid a central depression. An illustrative case is a 43-year-old who requested correction of this postsurgical deformity, which embarrassed him so much that for the 26 years since his gynecomastia operation, he would not take off his shirt in public (Fig. 17.2, *upper*). Upon raising his arms, the depression was obvious (Fig. 17.2, *middle*). On the left chest, nearby inferior excess tissue served as an advancement flap to fill under the areola. The right chest depression was improved by 9 cc of lipoaugmentation. Even with arm elevation, there was no depression (Fig. 17.2, *lower*). Grade I and II patients are reluctant to accept scars beyond the NAC and seek alternative skin tightening technology or pectoralis muscle lipoaugmentation.

With more complex cases, appropriate surgical intervention needs to be taken to correct deformity of the NAC, constriction of the breast, Grade III ptosis of the breast, severe sagging skin of the chest, and under development of the pectoral muscle. An initial recognition of the deformity and its extent leads to a directed approach and success.

Gynecomastia's variety of presentations dictates treatment and sequelae. Our modified Simon progressive deformity classification, based on breast size and tissue laxity, sorts out treatment options. Our modification accounts for constricted breasts, severe ptosis, misshapen areola, and skin laxity of the chest (Table 17.1). Our modified three-grade Simon classification [4] assigns *Grade I* as *minor enlargement* without skin redundancy; *Grade II a* as *moderate*

D. J. Hurwitz (✉)
Department of Plastic Surgery, UPMC Magee Woman's Hospital, Pittsburgh, PA, USA
e-mail: drhurwitz@hurwitzcenter.com

A. T. Darwish
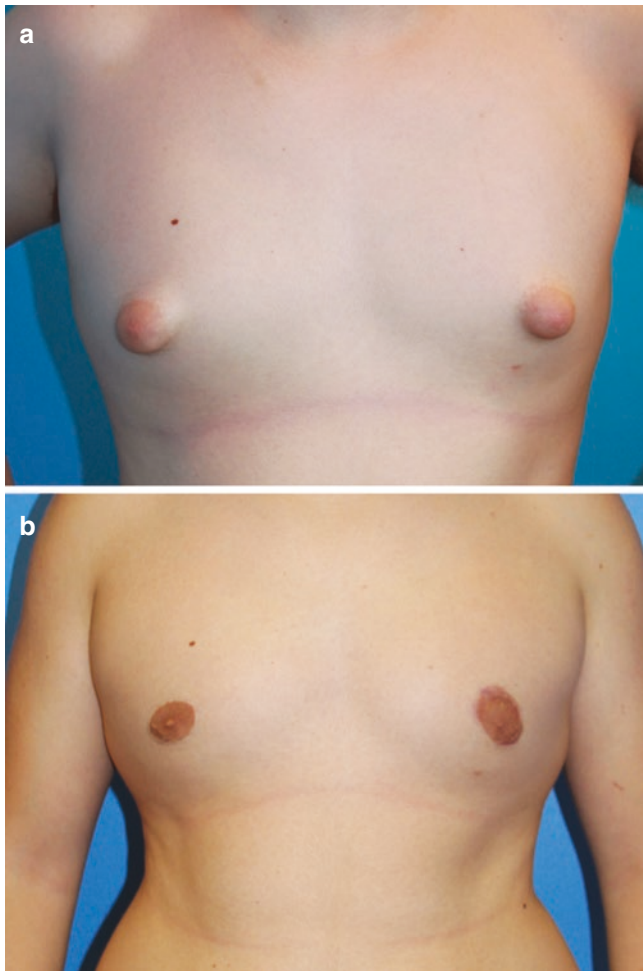Department of Plastic Surgery, University of Cairo, Cairo, Egypt

Fig. 17.1 Gynecomastia with asymmetrically constricted areola in an 18-year-old. (**a**) Prior to circumareolar mastopexy with direct excision of gynecomastia. (**b**) Complete correction of gynecomastia with plans to revise asymmetrical areolas

Fig. 17.2 Postgynecomastia depression. (**a**) Depressed areolas 26 years after his direct excision of gynecomastia. (**b**) Depression is worse with his arms elevated. (**c**) After correction with 9 cc lipoaugmentation under his right areola and inferior subcutaneous flap advancement under the left

enlargement without skin redundancy; *Grade II b* as *moderate enlargement*, with nipple ptosis/deformity, and minor skin redundancy; *Grade III a* as *marked enlargement* with nipple ptosis/deformity with skin redundancy or glandular deformity; and *Grade III b* as *marked enlargement* with sagging breasts and considerable upper torso skin redundancy as in the now common torso presentation after massive weight loss.

For Grades I and II, minimal scarring can be achieved by transareolar direct resection [5] or by wide area of liposuction, depending on retraction of the decompressed skin envelope [6]. Ultrasonic-assisted lipoplasty is considered a more effective removal technique for dense glandular and fibroconnective tissues [7]. Nevertheless, pull-through resection of the fibrous gland is often required [7, 8]. When liposuction leaves behind a mass of firm glandular tissue, a pull-through excision through an infraareolar incision completes removal of the fibrous portion of the gland.
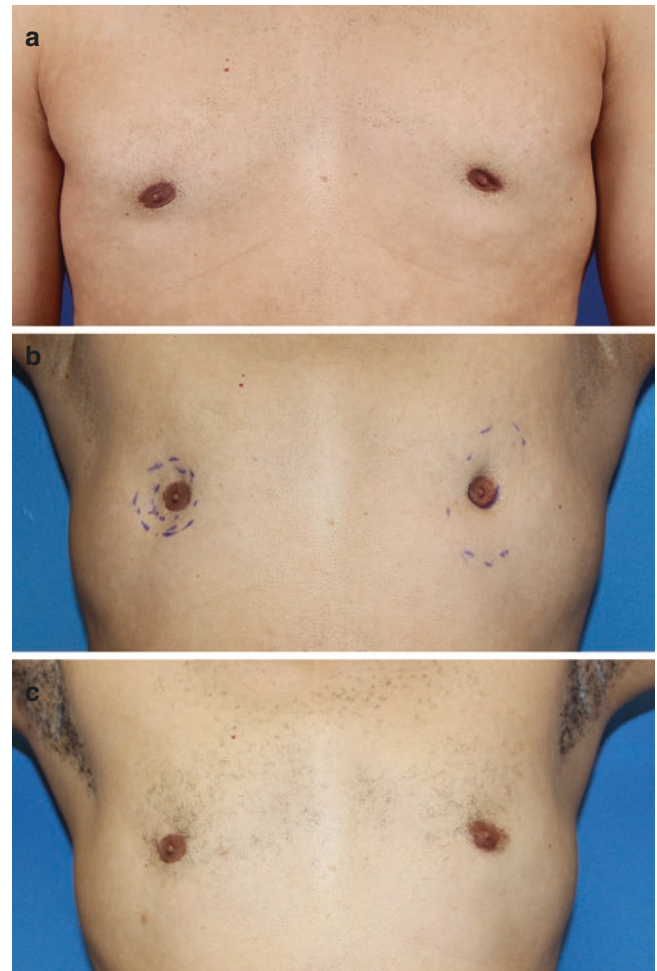
Traditionally minor skin excess with nipple ptosis, Grade IIb is treated by periareolar mastopexy removal of a ring of excess skin. At times, the purse string closure heals with faded radiating pleats. Male breast skin does not shrink as smoothly as a female's. A periareolar resection is performed to reduce oversized areola and for hernia-like protrusion. Residual areola asymmetry may need to be corrected (see Fig. 17.1).

For moderate skin laxity, Grade IIb generally exhibits increased skin excess after excision of the gynecomastia and as such in the past has required lower breast transverse skin excision. That excision can usually be avoided through subcutaneous bipolar radiofrequency-assisted lipolysis with connective tissue tightening [9]. Over the past 3 years, this author has been proactively reducing skin laxity by the application of BodyTite® (InMode, Yoakum, Israel). Innovative patterns for necessary large skin resections for Grade IIIb

Table 17.1 Treatment options for the grades of gynecomastia

Grade	Excision	VASERlipo	BodyTite®	Pectoralis lipoaug.	Periareolar/lat. torsoplasty	Boomerang pattern	J-torsoplasty
I	X						
IIa	X	X					
IIb	X	X	X	X	X		
IIIa	X	X	X	X	X	X	
IIIb	X	X				X	X

have been both effective and aesthetic [10]. Measures may be taken to augment the pectoralis muscle through flaps or lipoaugmentation to both increase visible masculinity and take up slack skin. Sculpting liposuction of adipose excess is followed by lipoaugmentation directly into or deep to the pectoralis major muscle (Fig. 17.3).

With the inclusion of BodyTite® in 2017, the current approach for gynecomastia consists of six options: (1) transareolar excision of breast tissue, (2) VASERlipo, (3) radiofrequency tightening, (4) a variety of skin excision patterns, (5) lipoaugmentation of the pectoralis muscle, and (6) combination therapy. The therapeutic options are arrayed across the modified Simon classification (see Table 17.1).

BodyTite® utilizes a bipolar handpiece connected to a radiofrequency energy-generating console. A solid, slightly malleable 17-cm long, 3-mm diameter probe with a protective end plastic hub is inserted under the dermis through a 14-gauge needle puncture. Emanating continuous preset magnitude of radiofrequency energy, the probe slowly traverses, like one would a suction cannula, through all layers of saline-infused subcutaneous tissue, emanating a steady cadence of clangs. On the pull-back, continuous probe focused radiofrequency energy is directed to the coupled 3-cm receiving disc gliding on the skin surface. As the preset temperatures are reached, the clangs rapid fire and then the power stops when reaching the preset temperatures of around 40 degrees Celsius for the surface and 70 degrees internally. At that time, a palm-sized region has absorbed from 7 to 10 kJ. Up to 20% tissue contraction is visualized. If not, then the treatment is repeated after cooling. Early postoperative swelling masks the collagen injury and shortening, but with proper splinting and maturation of healing, the final roughly 20% contracted state is evident 6–12 months later [9].

VASERlipo utilizes the well-known third-generation ultrasonic-assisted lipoplasty VASER (Solta Medical, Bothell, Washington) system, which reliably evacuates all excess adipose along with dispersed glandular tissue. Except for the solid core of fibrous-like subareolar tissue, all gynecomastia can be evacuated when VASERlipo is combined with BodyTite®. Subsequent transareolar pull-throughs are either eliminated or reduced to a relatively rapid, small, and bloodless excision.

The popularity of bariatric surgery has greatly increased the demand for correction of gynecomastia. Massive weight loss (MWL) can result in severely ptotic breasts and considerable residual gland and skin laxity that include the entire torso. Compared to other presentations of gynecomastia, the deformity after MWL is severe, the procedures complex, and the risks high. Through an edited video, this chapter ends with a total body lift that features a boomerang pattern correction of gynecomastia with J-torsoplasty to treat Grade IIIb gynecomastia. Following these lengthy procedures, there may be devastating complications, such as cellulitis with sepsis and DVTs with pulmonary embolism.

Chest Aesthetics and Deformity

A barrel-like rib cage is draped by large flat pectoralis major, trapezius, and latissimus dorsi muscles. Lower anterior chest definition features obliquely lateral and inferior pectoralis border adherences. The rounded superior pole of the pectoralis muscle tapers rapidly to thin under the NAC. As there is no breast, there should be no defined inframammary fold (IMF). Therefore, creating an IMF through an inferior chest transverse scar is not masculine. Our observation is a minority opinion, not shared by most plastic surgeons writing on gynecomastia surgery. The minimally projecting static male nipple, surrounded by horizontally oriented 2–3-cm oval areola, lies just medial and superior to these pectoralis landmarks. Ignored by most plastic surgeons, but not by our body-conscious patient, are the dynamic changes of the areola as the pectoralis morphs from relaxation though full contraction, and during arm and body position changes.

Idiopathic gynecomastia is thought to arise from hormone imbalance favoring estrogen with super sensitivity of the glandular bud to increased circulating sex hormones of puberty. Inversely related to the degree of adiposity, glandular gynecomastia varies from slight to considerable firm masses emanating from the areolas. Minimal adiposity gynecomastia is an obliquely oriented, easily isolated firm tube with more mass lateral than medial. Adipose-laden gynecomastia is nearly spherical with less-defined borders. Pseudogynecomastia exhibits little palpable firmness and presents in obese patients and after massive weight loss.

The relationships of the areola to the pectoralis muscle position and shape are demonstrated in a 49-year-old male with Grade IIb moderate enlargement and nipple ptosis with moderate skin redundancy (see Figs. 17.4 and 17.5)

Fig. 17.3 (**a**, **b**) A 31-year-old with BMI 32.8 presented with Grade III gynecomastia and underdeveloped pectoralis muscles. (**c**, **d**) Three months following transareolar resection of the gynecomastia and 400 cc lipoaugmentation of the pectoralis muscles
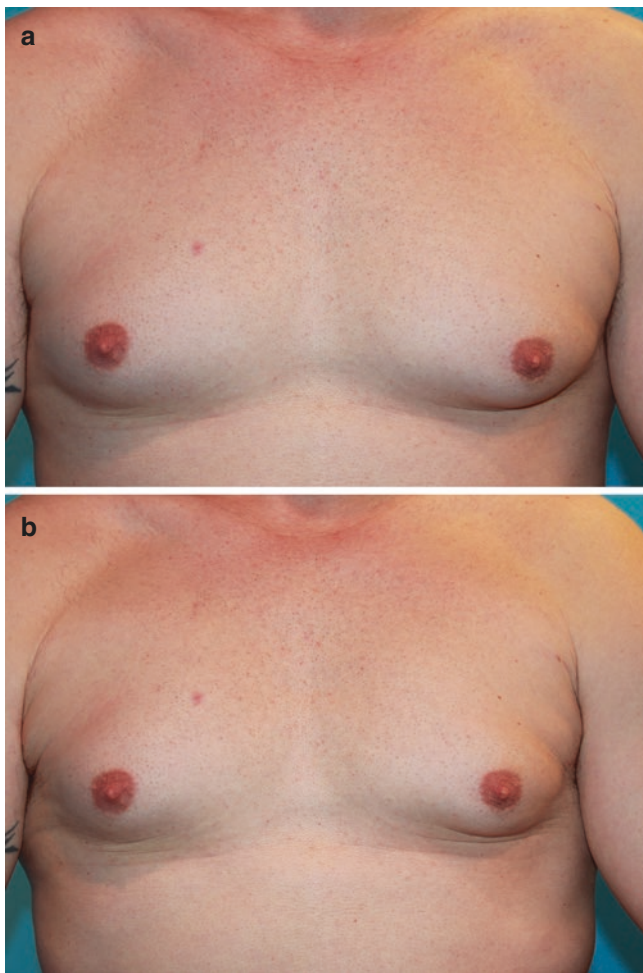
Fig. 17.4 Grade IIb gynecomastia in a 45-year-old man who is 6 feet 3 inches tall and 200 pounds, frontal view. (**a**) With the pectoralis muscle relaxed the postareolar skin and inferior is filled with breast and muscle. (**b**) With the pectoralis muscle contracted, the muscle is elevated, leaving only the gynecomastia to shape behind the areola and inferior

The lax pectoralis muscle will descend for added fill deep and inferior to the areola. The medial infraclavicular area is flat. The contracted pectoralis major rises and bulges above the NAC so that only the now isolated rounded gynecomastia protrudes the areola and inferior skin. Raising the arms stretches, elevates, and flattens the pectoralis muscle to visually isolate the glandular prominence. Upon leaning over in the diving position, the loosely adherent gland droops, which increases with skin laxity. For a thorough visual appraisal of results, clinical photographic documentation of gynecomastia and its treatment should include arms to the side, contracted pectoralis muscle, extended arms, and diving position.

Correcting Deformity and Improving Aesthetics

Since the contracted pectoralis muscle or raised arm leaves no fullness deep and inferior to the areola, corrective surgery should empty that space. Hence, I reject the commonly recommended inferiorly based deepithelialized buried dermal pedicles that vascularizes a ptotic nipple placed through an opening in the chest skin. Bulk, due to these pedicles, leaves unaesthetic fullness most apparent when contracting the pectoralis muscle or raising the arms.

The repositioning of a ptotic nipple relates to the dynamic pectoralis muscle rather than skeletal landmarks or absolute numbers or ratios. The repositioned NAC is planned several centimeters medial and superior to the junction of the lateral and inferior borders of the pectoralis major muscle. Extending the arms raises the flattened nipples. To satisfy both static and dynamic appearances, nipples must relate to that muscle or else they will not optimally animate. Large areolas should be reduced.

The primary objective of gynecomastia correction is to remove nearly all breast glands. That should include disruption of the inframammary fold. The inframammary fold is a condensation of fibrous adherences between the dermis and the muscular fascia through a reduced adipose area along the inferior portion of the breast. The female inframammary fold tends to lie about the fifth and six ribs, whereas the adherences of skin in the male relate to the inferior and lateral borders of the pectoralis muscle, which are at least one interspace higher and less distinct than the usual IMF. To obtain that aesthetic goal, the fold is obliterated by stretching the tissues and advancing them a short distance.

Aside from being the least traumatic removal of fat, VASERlipo also disrupts the adherent IMF. The boomerang excision pattern for gynecomastia includes extensive indirect inferior chest undermining of the skin to disrupt the IMF. Low transverse excisions of redundant skin create an IMF, which we believe the surgeon should avoid. When closed in layers, a suture line contour depression may be avoided, but when the patient leans over any skin laxity abruptly stops along that line and billows over the adherent scar, which sadly for the patient simulates a breast.

Management of Grades I and IIA

Until this era of laparoscopic bariatric surgery, plastic surgeons generally treated three populations of gynecomastia. There is the typical mostly glandular gynecomastia persist-
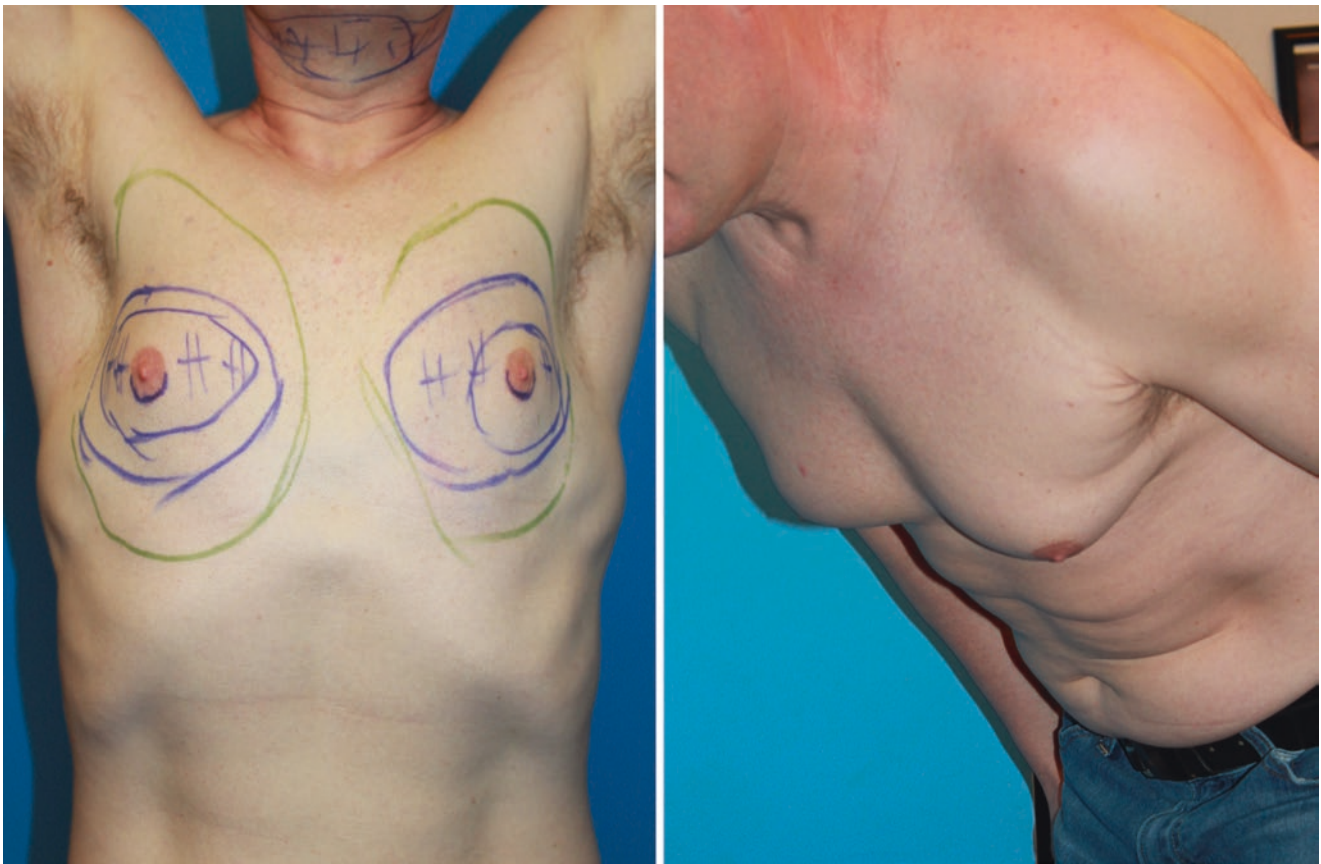
Fig. 17.5 Additional views of patient in Fig. 17.4. (Left) Extending the arms raises the pectoralis muscle to isolate the gynecomastia, which is encircled in blue. The area encompassing BodyTite® application is in green. (Right) The patient's left anterior oblique diving view shows skin laxity hanging from the weight of gynecomastia

ing beyond adolescence. The second group is fuller adipose-laden breasts in older men, usually with weight gain. The final group is bodybuilders who, with or without the use of exogenous steroids, develop disturbing completely glandular minor gynecomastia.

Typically, breast hypertrophy is not tender, but sometimes pain and tenderness are significant. Direct excision of the offending hypertrophy gland reliably removes the gland and relieves the pain. After careful mapping of the sausage-like firm mass, a transareolar excision with tapering of the perimeter subcutaneous tissues is performed.

Traditional glandular excision of gynecomastia for Grades I and IIa is typically performed through infraareolar or transareolar incisions [5]. While confining the scar, this poor exposure risks hematoma, seroma, delayed healing, and contour deformity. Also, residual sagging skin occurs. Accordingly, early surgical reintervention or secondary correction is common. In recent years, the intro-duction of sophisticated energy technologies has greatly reduced those sequelae. Ultrasonic-assisted lipoplasty (VASERlipo) has supplanted traditional liposuction, and radiofrequency lipolysis (BodyTite®) has obviated minor skin resections. Moreover, together these technologies have virtually eliminated hematoma, seromas, and surgical drains.

With a predominately adipose mass without skin laxity, VASERlipo alone may be enough. After generously infiltrating hundreds of cubic centimeters of saline with xylocaine and epinephrine, the offending gland can be sonically emulsified and then aspirated through strategically placed stab wound incisions with care to taper the perimeter. Sponge and elastic garment compression retard hematoma. Extending VASERlipo over most of the anterolateral chest improves skin redraping across the chest wall. Evacuation of large glands and/or detectable skin laxity prompts preemptive BodyTite® treatment.

Grades IIB Through IIIA

Advanced technologies of VASERlipo and BodyTite® are combined for the treatment of Grade IIb and IIIa deformities. Periareolar excisions are limited, and lateral chest or long transverse scars are avoided.

Along the way, there has been a stressful learning curve. Since VASERlipo leaves intact most of the subcutaneous tissue supporting the connective network, which is my target for the radiofrequency energy, for efficiency I complete the fat extraction before starting BodyTite®. It is imperative to adequately and uniformly heat the tissues as indicated by the gauges on the console without overtreatment thermal injury to any spot. During complicated multiple-procedure body-contouring surgery, my experienced physician assistant can effectively and safely perform the tedious numerous traverses of the handpiece. Postoperative scarring does not limit secondary treatment for further tightening after 6 months.

The Simon classification and its associated treatment algorithm assume that tissue characteristics and their behavior can be diagnosed and predicted based on the history and physical examination. Nevertheless, there are subtle transitions between grades of severity. When in doubt as to tissue laxity, apply BodyTite®. Large breasts with and without ptosis will exhibit some postoperative skin laxity. Mild to moderate laxity is amenable to radiofrequency treatment, whereby severe laxity especially with atrophy does not. Patients with several hundred pounds of weight loss and advanced age will not adequately respond to radiofrequency tightening. Care must be taken to avoid immediate subdermal energy in Fitzpatrick 4 and above pigmentation because of hyperpigmentation. A cardiac pacemaker is another contraindication.

While 18 cases of gynecomastia have been treated with BodyTite®, the treatment has evolved to a point of consistency for the last seven cases. There have been no seromas, skin necrosis, neuropathy, or infections. All patients recognized skin tightening, but many had hoped for more and some may undergo in-office repeat treatment at a reduced charge.

A favorable case for radiofrequency tightening is a 45-year-old, whose ptotic gynecomastia, Grade IIb, was presented in Figs. 17.4 and 17.5. After both prominent gland and excess chest adipose were fully reduced through extraction of 350 cc's of VASERlipo, they were exposed to 9.2 kJ of BodyTite®. Despite the anticipation to pull through additional gland through a marked infraareolar incision, that was not necessary. Avoiding the excision saved time, reduced

Fig. 17.6 The same patient in Figs. 17.4 and 17.5, 7 months after VASERlipo and BodyTite®, frontal view. (Upper) With a relaxed pectoralis muscle, there is fullness behind and inferior to the areola. (Lower) Upon pectoralis contraction, the upper chest bulges; the slightly tilted areola is flat

swelling, and eliminated a postoperative drain. The 9-month postoperative views show scarless correction of the gynecomastia with ideal nipple and torso aesthetics (Figs. 17.6 and 17.7) One should anticipate that correction of Grade II gynecomastia will leave loose skin that could be tightened by BodyTite® therapy.

A larger Grade IIb gynecomastia is seen in a 190-pound 29-year-old patient who lost 40 pounds (Figs. 17.8 and 17.9) He underwent lipoabdominoplasty, 550 cc Vaserlipo of the flanks, 1350 cc VASERlipo of the breasts followed by superior areolar incision pull-through of residual gland, and then 30 kJ BodyTite® treatment per breast. Nine months later both the gynecomastia and skin laxity of the torso were corrected with minimal scars.

Fig. 17.7 The same patient in Figs. 17.4 and 17.5, 7 months after VASERlipo and BodyTite®. (Left) With the arms extended, the pectoralis raises above the areolas, revealing no residual breast gland. (Right) As the patient leans, the areola and inferior are filled with muscle but the skin does not sag

VASERlipo followed by BodyTite® left a reasonable but somewhat disappointing result after a 200-pound weight loss in a 49-year-old patient with Grade IIIa gynecomastia. In addition, he underwent lipoabdominoplasty with VASERlipo of the flanks (Fig. 17.10). Six months later, further BodyTite® provided some further skin tightening but also left an adherent thin roll. In a final attempt to avoid scars, we plan lipo-augmentation of the pectoralis muscle. As long as prolonged application has been avoided, the subcutaneous scarring will be minimal, allowing repeat BodyTite® with further skin tightening up to three sessions spaced 6 months apart. After the rolls are effaced, we will start 3 months of continuous foam and elastic wrap pressure to maintain a smooth shape.

Thus, we find healthy young men with minimal glandular tissue (Grade I, IIa) will respond incredibly well with no residual deformity through either transareolar direct excision and/or VASERlipo. For patients with Grade IIb up to IIIa, VASERlipo is followed by BodyTite®. If needed, glandular pull-through excision completes the correction. Either VASER® or BodyTite® can cause thermal injury leading to hyperpigmentation or hypertrophic scar near entry sites. Thus, parasternal inferior chest entry should be avoided. One young MWL male with pigmented skin had an excellent nonexcisional glandular reduction but exhibited a periareolar dark and wide hyperpigmentation response necessitating an excision (Fig. 17.11). Scattered abdominal hyperpigmentation due to tape and dressings are indicative of his hyperpigmentation response even to external pressure.

Grade IIB Through Grade IIIB

For older men with involutional gynecomastia, skin laxity, and mild nipple ptosis, a lateral chest hockey stick skin excision toward the axilla tightens the skin and allows access to

Fig. 17.8 A 190-pound, 29-year-old man with a 40-pound weight loss seeks abdominoplasty, VASERlipo of the flanks, and correction of his gynecomastia with minimal scars. (Left) preoperative markings for his lipoabdominoplasty, VASERlipo of the flanks, 1350 cc VASERlipo of the breasts, followed by 30 kJ BodyTite® treatment of each breast. (Right) The 10-month result has excellent contours and no loose skin of the torso

excision of the breast mass (Fig. 17.12). Lateral deviation of the areola is countered with a medial crescent advancement of the NAC. Some residual skin laxity is expected. This limited scar operation is especially indicated when radiofrequency tightening is unavailable.

For Grade III deformity, a boomerang pattern correction of gynecomastia corrects the nipple ptosis, glandular hypertrophy, and excess anterior chest skin [10]. The procedure removes two unequal obliquely oriented ellipses that superiorly straddle the areolas. Considerable tissue can be removed with the long closure visually interrupted by the areola. Originally extended by a transverse upper body lift, for the past 10 years, the boomerang has been combined with J-torsoplasty for Grade IIIb after MWL [11].

The boomerang design leaves the NAC attached to a triangular, broad-based, non-deepithelialized inferior pedicle that may be defatted through VASERlipo. The two ellipses surrounding the NAC at right angles suggest a flying boomerang. The obliquity of the elliptical excision removes both vertical and horizontal excess tissues. With a C-like extension of the lateral chest excision, the J-torsoplasty tightens both the mid-back and the chest. A bonus is the scar lies under the relaxed arm and not across the back (Video 17.1) (Fig. 17.13).

Upon elevation of the descended NAC to its proper location, both inferior pole breast and upper abdominal skin laxity are taken up. The limitation of this operation is that if there is too much skin for skin contouring and nipple relocation, then a skin graft nipple placement is necessary. A severe case of
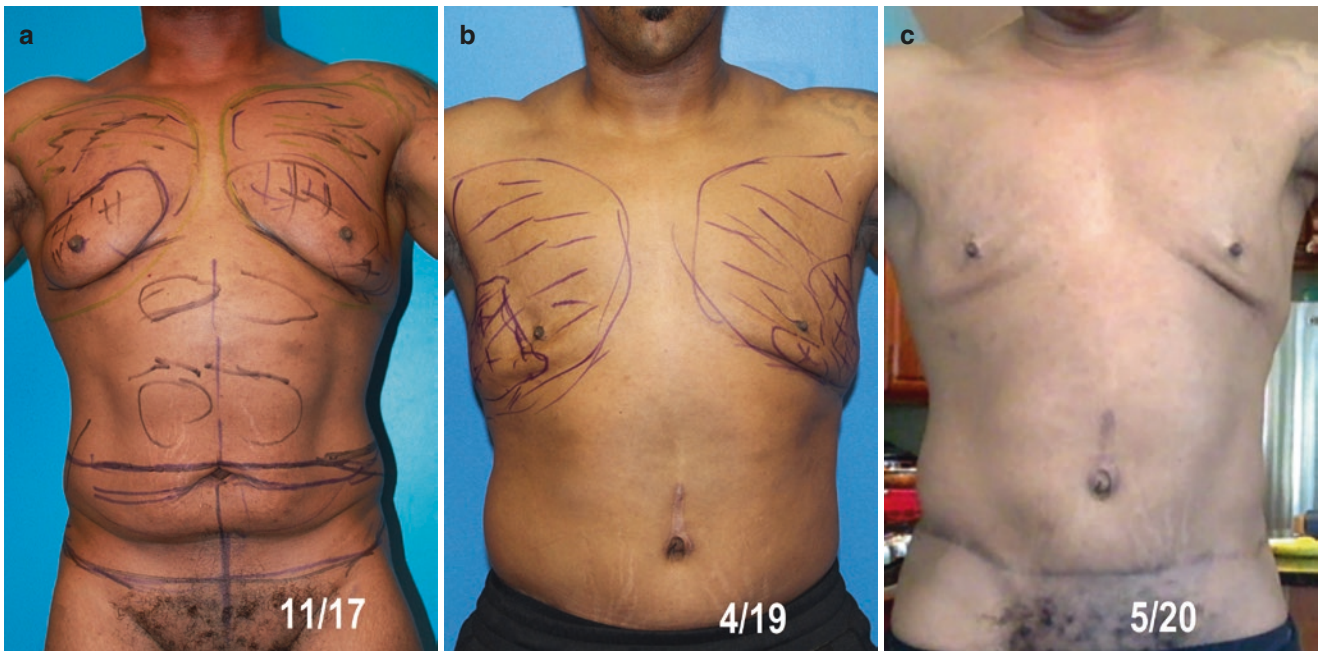
Fig. 17.10 A 48-year-old MWL patient with residual chest skin laxity. (**a**) Patient underwent the marked lipoabdominoplasty with oblique flankplasties along with VASERlipo and BodyTite® of his anterior chest. (**b**) Marked for repeat BodyTite® of chest. (**c**) Cell phone photo sent 4 months later, showing unacceptable adherent transverse chest rolls

tissue excess of the chest recently succeeded (Fig. 17.14). In addition, limited brachioplasty and VASERlipo with BodyTite® of the distal arm were done. Unfortunately, this 28-year old sustained a saddle pulmonary embolism that responded to systemic heparin anticoagulation.

This complicated operation, which corrects all aspects the gynecomastia as well as chest and back laxity, has a lot of moving parts and as such, even for the most experienced surgeons, needs to be done with some forethought and progressive attack. As shown in Video 17.1, it is best to make the inferior incision first, particularly when a concomitant abdominoplasty is done. The precise width of elliptical resection can be made after the abdominoplasty closure is started. Then after indirect undermining of the lower chest with a LaRoe dissector (Accurate Surgical & Scientific Instruments Corporation, Westbury, New York), the areola is advanced up to the upper markings and they are adjusted as needed for the optional tension at closure. Once the boomerang has been closed, the lateral chest skin excision of the J-torsoplasty can be completed. Otherwise, the closures across the chest may be either too loose or too tight.

Owing to the high quality of chest wall skin, when the closure is tight, there will be no secondary laxity as is seen commonly in the lower torso. The resection over the pectoralis muscle is essentially bloodless but not so with the lateral chest wall, which is also tedious, but most expeditious after early identification of latissimus muscle. Dissection over the muscle posteriorly provides proper orientation and depth of resection.
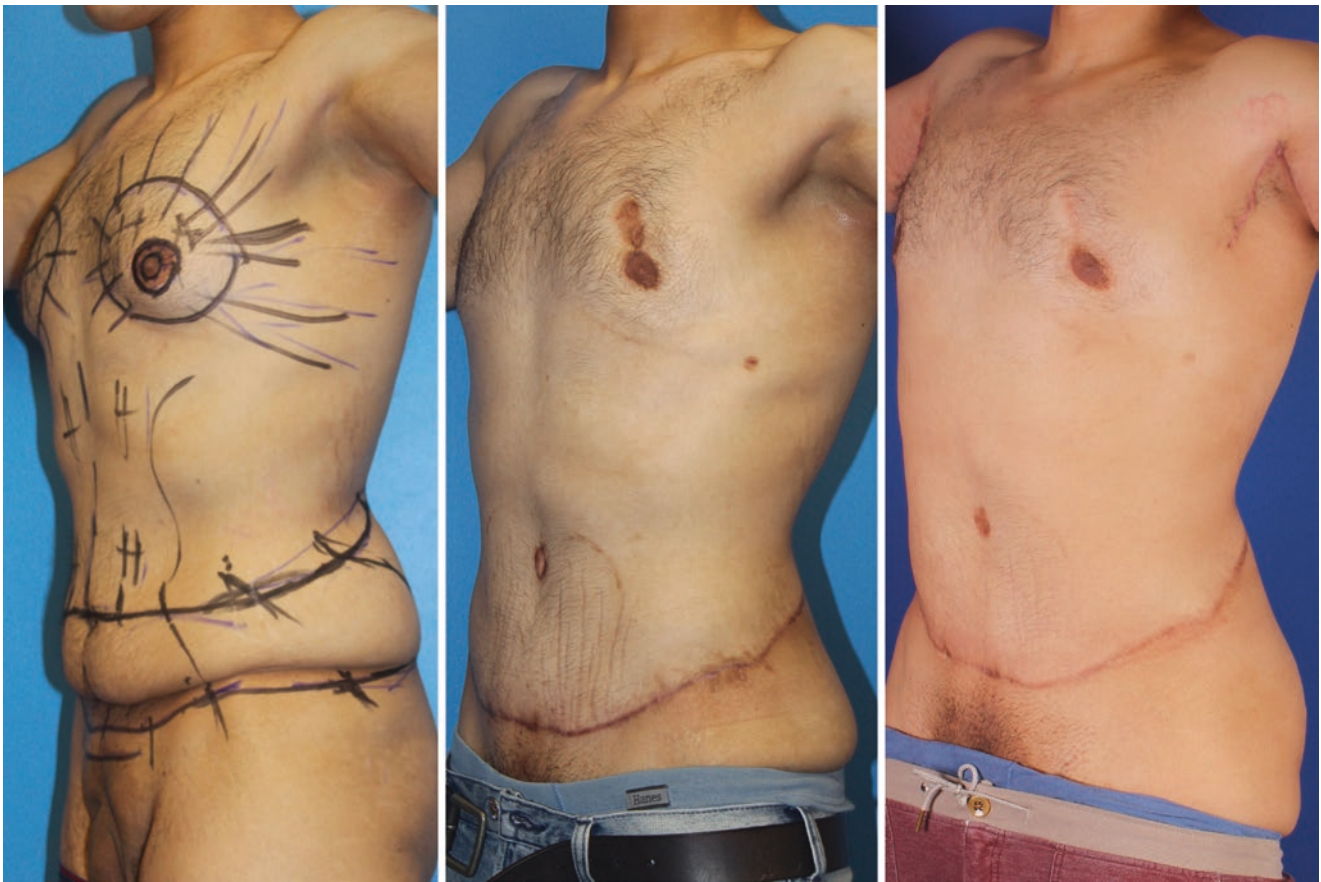

Fig. 17.11 Hyperpigmentation. VASERlipo followed by BodyTite® gynecomastia correction in a 23-year-old Arabian patient with massive weight loss. (Left) Marking for lipoabdominoplasty with oblique flankplasty, areolar reduction, and VASERlipo and BodyTite® of Grade IIb gynecomastia. (Middle) Eighteen months postop with scattered hyperpigmentation of scars and from binder pressure on tubing. (Right) Six months after excision of depressed hyperpigmentation of left chest. Torso contours are excellent, with minimal skin laxity
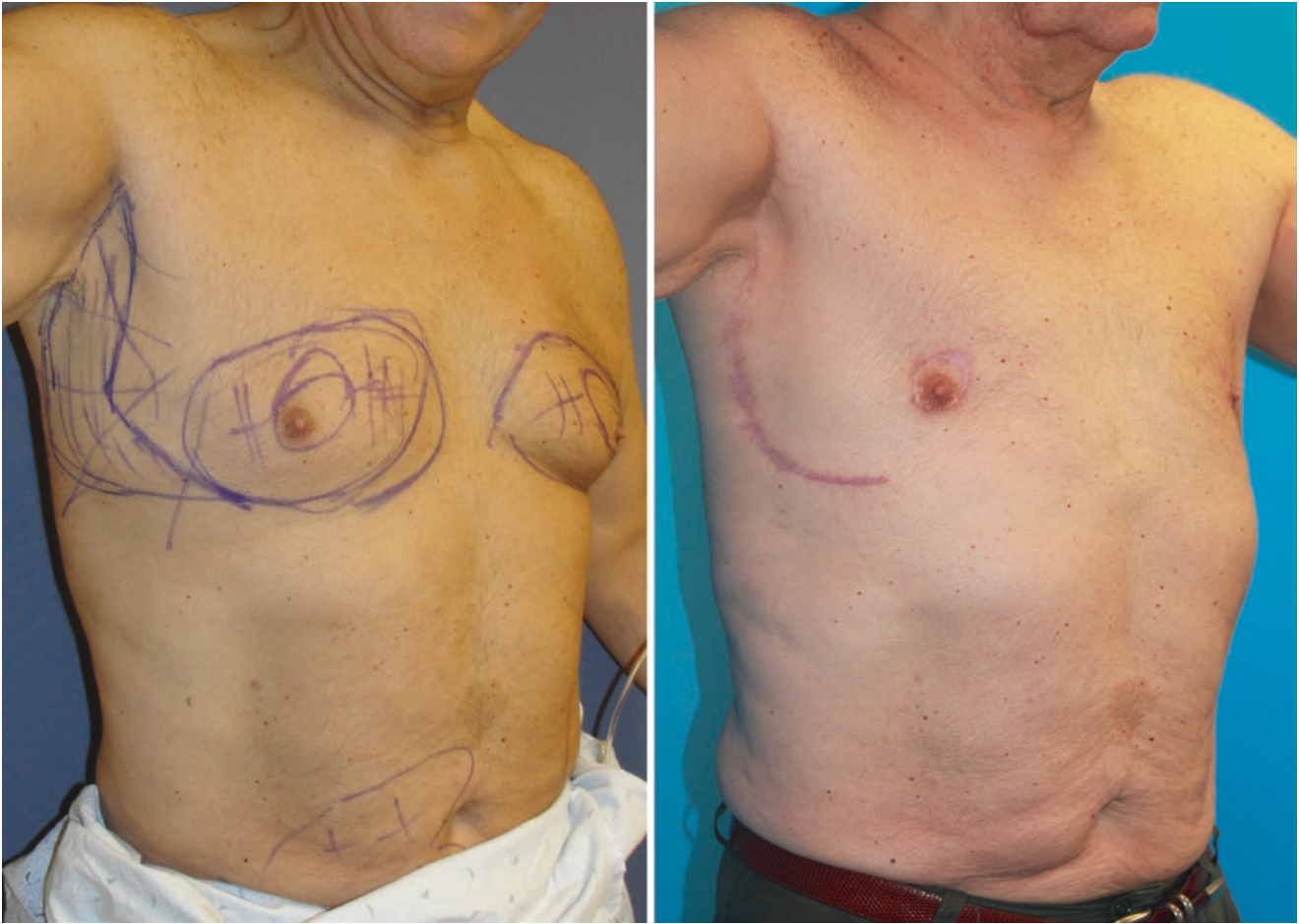
Fig. 17.12 (Left) Combination of a hockey-stick-shaped lateral torsoplasty and anteriomedial advancement of the nipple areolar complex in a 64-year male with 20-pound weight loss that resulted in Grade IIb gynecomastia. (Right) Satisfactory result

Then the dissection proceeds anteriorly across the serratus muscle. The closure with #2 barbed sutures of the different lengths of limbs of the J-torsoplasty is a challenge in wound edge justification.

With tissue resections going in a variety of directions, the operation is technically demanding but usually works out that the tissue contours are all smoothly adherent to the chest. There have been a few instances of unevenness requiring fur-ther liposuction or lipoaugmentation. Secondarily, inferior areola excess has rarely been reduced by inferior crescent excision. Overall, boomerang scars are thin and fade. Scar hypertrophy and hyperpigmentation can be a problem in densely pigment skin, most often in the medial limb. After performing over 30 cases, one entire NAC sustained necrosis. I over-thinned the areola and made the pedicle to the NAC too narrow.

Fig. 17.13 (Left) A 32-year-old underwent the second stage of his total body lift with boomerang correction of his gynecomastia and J-torsoplasty. (Right) Photos of his result sent from home 5 years later. The gynecomastia is corrected and the scars are barely perceptible

Fig. 17.14 A 29-year-old after gastric bypass resulted in a 140-pound weight loss to 240 pounds, requesting upper body and arm surgery. Left anterior oblique view before (left) and 17 months after (right) marked boomerang pattern correction of gynecomastia with J-torsoplasty and limited L-brachioplasty supplemented with VASERlipo and BodyTite® of distal arm

Conclusion

Advanced treatment of gynecomastia is fraught with challenges, including scarring, wound healing issues, contour irregularity, and unmet patient (or surgeon) expectations. These problems will be predicated to some degree on the magnitude of the gynecomastia deformity. In this chapter, the senior surgeon presents his novel fusion of diverse new techniques – such as pectoralis lipoaugmentation and his boomerang pattern technique – with novel technologies, including radiofrequency-based treatments, to enhance gynecomastia outcomes.

References

1. Nuttall FQ. Gynecomastia as a physical finding in normal men. J Clin Endocrinol Metab. 1979;48(2):338–40.
2. Kinsella C Jr, Landfair A, Rottgers SA, Cray JJ, Weidman C, Deleyiannis FW, et al. The psychological burden of idiopathic adolescent gynecomastia. Plast Reconstr Surg. 2012;129(1):1–7.
3. Nuzzi LC, Cerrato FE, Erickson CR, Webb ML, Rosen H, Walsh EM, et al. Psychosocial impact of adolescent gynecomastia: a prospective case–control study. Plast Reconstr Surg. 2013;131(4): 890–6.
4. Simon BE, Hoffman S, Kahn S. Classification and surgical correction of gynecomastia. Plast Reconstr Surg. 1973;51:48–52.
5. Webster J-P. Mastectomy for gynecomastia through semicircular intra-areolar incisions. Ann Surg. 1946;124:557.
6. Rosenberg GJ. Gynecomastia: suction lipectomy as a contemporary solution. Plast Reconstr Surg. 1987;80(3):379–86.
7. Rohrich RJ, Ha RY, Kenkel JM, Adams WP Jr. Classification and management of gynecomastia: defining the role of ultrasound-assisted liposuction. Plast Reconstr Surg. 2003;111(2):909–23; discussion 924–905.
8. Hammond DC. Surgical correction of gynecomastia. Plast Reconstr Surg. 2009;124(1 Suppl):61e–8e.
9. Theodorou SJ, Del Vecchio D, Chia CT. Soft tissue contraction in body contouring with radiofrequency-assisted liposuction: a treatment gap solution. Aesth Surg J. 2018;38(S2): S74–83.
10. Hurwitz DJ. Boomerang pattern correction of gynecomastia. Plast Reconstr Surg. 2015;135(2):433–6.
11. Hurwitz D. Enhancing masculine features after massive weight loss. Aesth Plast Surg. 2016;40(2):245–55.