Defining the Aesthetic Units of the Male Chest and How They Relate to Gynecomastia Based on 635 Patients

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Summary: Gynecomastia awareness and treatment have increased significantly. Treatment of gynecomastia is now one of the most popular procedures requested by men. There are many gynecomastia classification systems that have been described. The usefulness of these classifications in the diagnosis and treatment of modern gynecomastia is unknown and has fostered confusion among surgeons and patients. This article elucidates the topographic pattern consistently seen in gynecomastia patients and relates this to the diagnosis and treatment of gynecomastia. The proposed gynecomastia zone classification is a simple and objective method to clinically describe gynecomastia and direct appropriate treatment. (*Plast. Reconstr. Surg.* 142: 904, 2018.)

Gynecomastia treatment is one of the most commonly performed plastic surgery procedures on men.[1] There are numerous published gynecomastia classification systems based on parameters such as size, degree of ptosis, the type of tissue, and other metrics, none of which are universally accepted or applicable to all types of gynecomastia.[2–12] The role and usefulness that these classifications have in the diagnosis and treatment of gynecomastia are unknown.

The proposed gynecomastia zone classification emerged from recognizing a consistent pattern of contour variations in gynecomastia patients. Appreciating the upper thorax as a regional unit of human anatomy, the zones noted are subunits of this regional anatomy. This is similar to the subunit principle as applied to the nose by Burget and Menick.[13]

GYNECOMASTIA ZONE CLASSIFICATION

The zones of the male chest are described as follows (Figs. 1 through 3):

1. Zone 0. This is the area immediately beneath the nipple-areola complex and is always the source of the gynecomastia tissue present. The most localized form of gynecomastia, "puffy nipples," has its origins in zone 0.
2. Zone 1. This is the area of the frontal chest superficial to the pectoralis muscle. It is often elliptical in shape and horizontally oriented with the nipple-areola complex at its apex. Fullness in this zone is the most common gynecomastia presentation. This zone surrounds zone 0.
3. Zone 2. This is the area lateral to the frontal chest (zone 1), caudal to the axillary area and can extend to the latissimus muscle border posteriorly.
4. Zone 3. This is located along the upper lateral border of the pectoral muscle adjacent to the axillary crease.
5. Zone 4. This area is caudal to the inframammary fold and can extend from the midline of the chest to the lateral thorax. Its shape is typically oblong.

Patients presenting with various zone combinations are included. (**See Figure, Supplemental**

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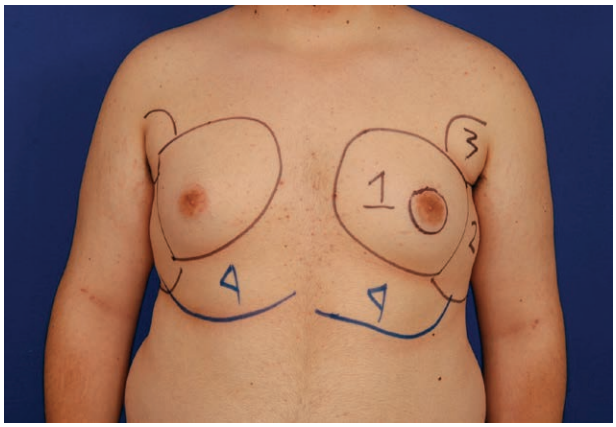

Fig. 1. Frontal illustration of the male chest with areas classified by zones.

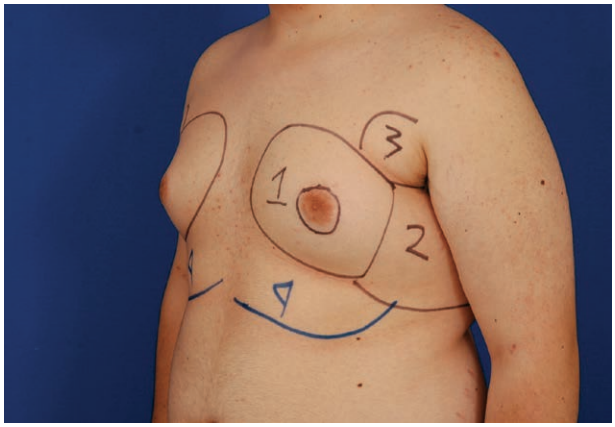

Fig. 2. Oblique illustration of the male chest with areas classified by zones.

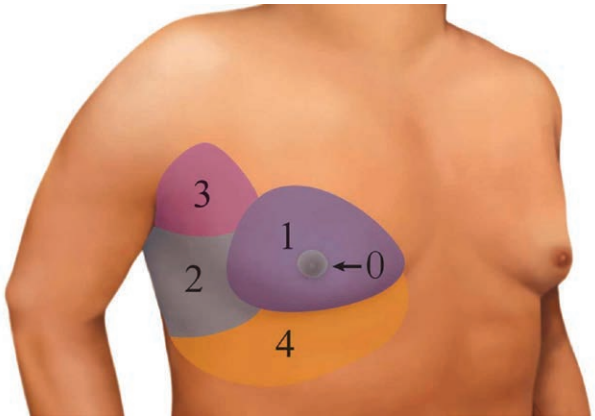

Fig. 3. Illustration of gynecomastia zones.

Digital Content 1, which shows a patient with zone 0, ***http://links.lww.com/PRS/C972***. **See Figure, Supplemental Digital Content 2**, which shows a patient with zone 1, ***http://links.lww.com/PRS/C973***. **See Figure, Supplemental Digital Content 3**, which shows a patient with zones 1 and 2, ***http://links.lww.com/PRS/C974***. **See Figure, Supplemental Digital Content 4**, which shows a patient with zones 1 and 3, ***http://links.lww.com/PRS/C975***. **See Figure, Supplemental Digital Content 5**, which shows a patient with zones 1 through 3, ***http://links.lww.com/PRS/C976***. **See Figure, Supplemental Digital Content 6**, which shows a patient with zones 1 through 4, ***http://links.lww.com/PRS/C977***.)

DISCUSSION

The abundance of published gynecomastia classification systems is a testament to the fact that there is no single system that surgeons agree on. This is so because they are open to surgeon interpretation and do not adequately direct the optimal form of modern-day gynecomastia treatment, resulting in patient and surgeon confusion and potential overtreatment. The cause of the gynecomastia and the type of gynecomastia tissue have little bearing on current gynecomastia treatment. Discerning the degree of ptosis and tissue laxity is imprecise, size is subjective, and determining the nature of gynecomastia tissue based on a physical examination is difficult.

Treatment of the patient cohort was performed with a four-step process. First, tumescent infiltration of the zones was performed. Second, Vaser (Solta Medical, Pleasanton, Calif.) treatment of zone 1 gynecomastia tissue was performed. Third, cannula liposuction removed the effluent in zone 1 and treated the remaining zones. Finally, residual tissue was removed from a partial periareolar incision. No special instruments, electrosurgery, or drains are needed. Almost all patients were treated with this four-step method. (**See Figure, Supplemental Digital Content 7**, which shows a patient with zone 1 through 4 treatment. (*Above*) Before treatment. (*Below*) After treatment, ***http://links.lww.com/PRS/C978***.) The greatest challenge, therefore, is determining who benefits from skin removal and nipple-areola complex transposition.

There are no data to support improved diagnosis or treatment of gynecomastia using the currently published algorithms. Because most patients are treated effectively with liposuction and tissue removal alone regardless of their presentation, classification systems that suggest treatment alternatives are not essential. The proposed gynecomastia zone classification focuses on the areas to be treated based on the individual's topographic assessment and zone involvement. Gynecomastia tissue is found in zones 0 and 1. By

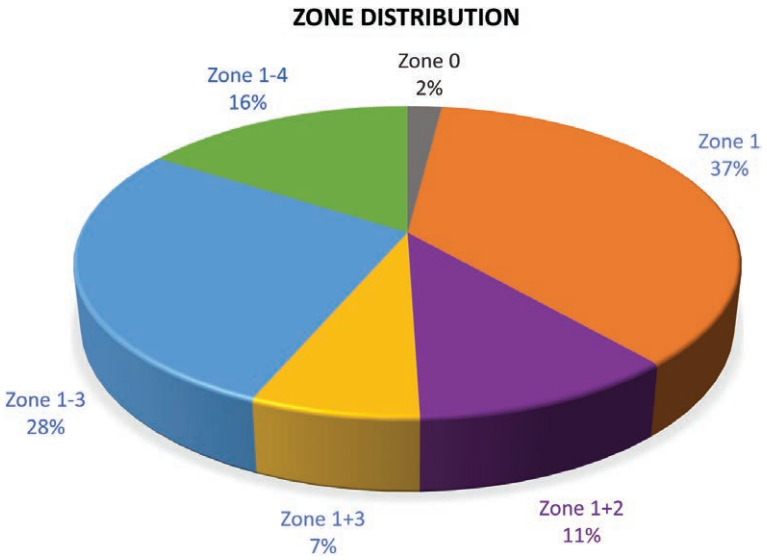

Fig. 4. Illustration of zone distribution.

definition, fullness in these areas is related to the abnormal proliferation of tissue and results in the appearance of what resembles female-like breasts in a male patient. Fullness in zones 2 through 4 is from fatty tissue hypertrophy, not gynecomastia tissue. Adequate treatment of all involved zones will address gynecomastia tissue and subcutaneous lipodystrophy to maximize chest virilization. An analysis of the patient cohort revealed the zone distribution illustrated in Figure 4. According to this analysis, the most frequently involved distribution is zone 1, followed closely by zones 1 through 3. This suggests that surgeons should examine all areas of the upper chest for appropriate treatment and not focus on the frontal chest exclusively.

Potential benefits of the gynecomastia zone classification include the following: (1) it enhances patient-surgeon communication; (2) it helps determine the areas of patient concern and proposed treatment, which helps establish appropriate patient expectations; (3) it directs appropriate area-focused gynecomastia treatment and documentation; (4) treatment is focused toward global aesthetic chest contouring; (5) it results in improved staff communication regarding the actual procedure (e.g., treatment areas, complexity, operating room time, anesthesia, and recovery); (6) it is simpler and more objective than the currently published classifications; and (7) it is consistent with optimal integration with modern treatment of gynecomastia.

CONCLUSIONS

The proposed gynecomastia zone classification is a simple and objective tool to assist in the assessment and treatment of gynecomastia by appropriately targeting therapy to the chest. It is particularly suited to the modern treatment of gynecomastia.

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REFERENCES

1. American Society of Plastic Surgeons. 2017 plastic surgery statistics report. Available at: https://www.plasticsurgery.org/documents/News/Statistics/2017/plastic-surgery-statistics-full-report-2017.pdf. Accessed August 3, 2018.
2. Barros AC, Sampaio Mde C. Gynecomastia: Physiopathology, evaluation and treatment. *Sao Paulo Med J.* 2012;130:187–197.
3. Cordova A, Moschella F. Algorithm for clinical evaluation and surgical treatment of gynaecomastia. *J Plast Reconstr Aesthet Surg.* 2008;61:41–49.
4. Fruhstorfer BH, Malata CM. A systematic approach to the surgical treatment of gynaecomastia. *Br J Plast Surg.* 2003;56:237–246.
5. Gusenoff JA, Coon D, Rubin JP. Pseudogynecomastia after massive weight loss: Detectability of technique, patient satisfaction, and classification. *Plast Reconstr Surg.* 2008;122:1301–1311.
6. Mladick RA. Body contouring: Gynecomastia. *Aesthet Surg J.* 2004;24:471–479.
7. Monarca C, Rizzo MI. Gynecomastia: Tips and tricks. Classification and surgical approach. *Plast Reconstr Surg.* 2013;131:863e–865e.
8. Ratnam BV. A new classification and treatment protocol for gynecomastia. *Aesthet Surg J.* 2009;29:26–31.

9. 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;111:909–923; discussion 924–925.
10. Simon BE, Hoffman S, Kahn S. Classification and surgical correction of gynecomastia. *Plast Reconstr Surg.* 1973;51:48–52.
11. Waltho D, Hatchell A,Thoma A. Gynecomastia classification for surgical management: A systematic review and novel classification system. *Plast Reconstr Surg.* 2017;139:638e–648e.
12. Webster JP. Mastectomy for gynecomastia through a semicircular intra-areolar incision. *Ann Surg.* 1946;124:557–575.
13. Burget GC, Menick FJ. The subunit principle in nasal reconstruction. *Plast Reconstr Surg.* 1985;76:239–247.