Breast Asymmetry: Classification and Management

For this author, the keys to successful treatment are defining the nature of the breast asymmetry, respecting the patient’s aesthetic goals, and performing a well thought out surgical plan. She asks patients which breast is preferred (not always the larger) and establishes empathy and trust by presenting pre- and postoperative photos of other patients treated for similar problems. (Aesthetic Surg J 2006;26:596–600.)

Breasts are an integral part of feminine beauty and breast symmetry is key to beautiful form. A young woman with severely asymmetric or uneven breast development is likely to be profoundly self-conscious. For such a woman, surgical intervention can be life changing.

There is a natural asymmetry in normal female breasts; however, marked asymmetry may be caused by embryological, hormonal, or idiopathic factors. Successful treatment requires compassion, artistry, and surgical skill. Here, I share more than 20 years of experience in treating patients with a wide range of problems related to developmental breast asymmetry.

Embryology

An understanding of normal breast development is the basis for understanding irregularities. The primordial cells of the human breast appear between the ventral limb buds as 2 ectodermal ridges known as mammary ridges or milk lines. The cells of the upper one third coalesce to become the future breast, while the remainder regress. Because thoracic structures develop concurrently, it is not surprising that some patients demonstrate abnormalities of both breast and chest wall.

The prepubertal breast is equivalent in both sexes, consisting of a number of small ducts in a collagenous stroma. After fetal development is complete, the normal female breast awaits the hormonal stimulation of puberty to achieve final volume and shape. For most girls, breast development begins between the ages of 8 and 13. Premature thelarche refers to the appearance of breast development in the absence of other signs of puberty, growth spurt, or acceleration of skeletal maturation. Dissimilar mammmary growth is a common complaint, particularly in the early stages of breast development. In the majority of patients, the etiology is unknown. Developmental breast abnormalities may be part of wider congenital syndromes with a particular tendency to affect the urinary tract or limb girdles.

For a long time it has been taught that the milk lines extend from axilla to groin in human embryos just as in other mammals. It is now believed that the primordial breast tissue in humans is confined to the axillopectoral area. Eccrine or apocrine anogenital glands are thought to be the source of mammary-like pathology in the groin area.

Errors in Growth and Development

Breast asymmetry may result from growth disturbances or from a range of acquired conditions. Classifying this asymmetry as errors in growth and development is technically more precise than classifying it as congenital, since not all of these conditions are apparent at birth. These growth disturbances may be unilateral or bilateral and may involve the nipple areolar complex, the breast mound, or both. Errors in growth and development in terms of breast asymmetry include (1) absence of structures, (2) excess structures, (3) variations in size, and (4) variations in shape.

Amastia, absence of the breast, is rare and usually unilateral. It may be part of an inherited syndrome known as Poland’s syndrome, first described by Floriep in 1839. These patients lack a pectoralis major muscle on the affected side, and may also have upper extremity deformities (Figure 1).

Polymastia, is found in 2% to 6% of women; the supernumary breast is usually found in the axillary area. The aberrantly located breast tissue may produce milk, and is subject to all forms of normally occurring benign
and malignant conditions. Polythelia is less common than polymastia but still noted in 1% to 2% of the population. Accessory nipples are also found along the milk line, most often in an inframammary location (Figure 2). Frequently, the patient believes that the structure is a mole and not an extra nipple.

A size differential in similarly shaped breasts may be a result of a dissimilar volume of primordial breast cells, or of a differential response to normal hormonal stimulation (Figure 3). Three-dimensional imaging studies have confirmed that there is a normal asymmetry of volume distribution in otherwise symmetrically-appearing breasts. But a volume difference approaching 30% or greater is very difficult to conceal in normal attire.

The shape of the breast will vary with enlargement of glandular tissue and the integrity of the skin envelope. Upper quadrant deficiencies are frequently related to a loss of skin envelope tone and elasticity. Women with evenly shaped breasts may exhibit shape and size disparities after pregnancy and lactation. Lower quadrant deficiencies are more commonly related to the pattern of cellular distribution within the breast anlage, and include the tuberous breast deformity (Figure 4).

Women may present with asymmetry from a variety of acquired conditions. These include benign and malignant tumors and trauma, including burn injury, infection, or surgery. One cause of iatrogenic asymmetry is the ill-advised excision of a breast “mass” in an infant.

**Evaluation**

It is particularly important to establish a good rapport with patients presenting with severe breast asymmetry. Their characteristic body language—slouched posture and downcast eyes—conveys that they are unconfort-
able with themselves. A young woman with unevenly shaped or sized breasts usually thinks that no one else has this problem. The first step is to reassure her that her situation is not uncommon, that you have experience with such cases and interest in treating her.

I keep a special book of “before and after” photographs just for patients with asymmetry. If you show such patients photographs of routine augmentation and reduction patients it does not provide much comfort. I have found that once a prospective patient sees that I have successfully treated patients with similar problems, her whole demeanor changes.

The keys to successful treatment are to define the nature of the asymmetry, respect the aesthetic goals of the patient, and perform a well thought out surgical plan. As part of the patient history, include the following questions:

- When was the asymmetry first noticed?
- Does anyone else in the family have a similar problem?
- Was there an episode of trauma to the breast?
- Are the breasts still growing?
- Has there been any change in bra size in the last year?

Before examining the patient, find out what psychosocial issues the patient is experiencing. For example, determine if there has there been a change in school performance or participation in sports or other activities. Has there been a history of depression or aberrant behavior? The severity of these types of problems may influence your decision regarding the timing of surgical intervention (Figure 5).

By this time, the patient should be more comfortable with you. It is always a good idea to not have patients undress before they feel secure and trusting. It is my practice to allow the patient to decide whether or not she wants her mother to remain for the examination.

When performing the physical examination, it is important to include the following:

- Examine the entire thorax as well as the breasts.
- Look for signs of pectus deformities, scoliosis, rib flaring, chest wall hypoplasia, and muscular abnormalities.
- Measure and record the sternal notch to nipple distance and the base width of each breast.
- Determine if there is a discrepancy of inframammary fold levels.
- Roughly estimate the gram size difference between the breasts.

**Operative Planning**

The key to operative planning is to find out which breast the patient prefers. Do not assume it is the larger breast! It is not typical for these patients to speak in terms of cup size; they simply want to be *normal*. For such patients, being normal means having 2 breasts that appear similar. Achieving this goal may be possible with unilateral surgery, but frequently bilateral surgery is required. It is important to explain the rationale for bilateral surgery to the patient and her family. It is critical that they grasp the concept that the more similar the procedures performed on each breast, the more likely there will be symmetry over time.

**Figure 5 A,** Preoperative view of a 14-year-old female with a tuberous right breast and a hypoplastic left breast; she was hospitalized for treatment of severe depression. **B,** The patient underwent surgery at age 15. Postoperative view 18 months following superior pole reduction of 285 g and insertion of a 250-cc gel implant into a subpectoral pocket on the right and a 50:50 gel-saline implant filled to 300 cc on the left. Over the next year and a half, an additional 50 cc were added. The patient’s mental health improved immediately after the initial surgery.
Discuss the location of scars and the reality that scars are permanent and unpredictable in nature. If I need to use an implant, I recommend an inframammary incision (if appropriate) to preserve the opportunity for future breast feeding. This particular group of patients is more accepting of breast scars than those having purely aesthetic surgery procedures.

There are no hard and fast rules regarding the timing of this elective surgery. Frequently, to be sure that breast growth is fully completed, a pediatrician may advise the patient to wait until she is in her late teens. However, there are many patients in whom such a delay would be cruel. Earlier surgery is offered to the patient with the understanding that fine-tuning of the result may be required later. Maintaining a symmetric result over time, particularly with the changes in size and shape that naturally occur during pregnancy, is a challenge. However, to delay correction until child-bearing is completed seems unreasonable.

There are no new operations to learn. Each patient may be unique, but to achieve symmetry, I use familiar procedures including augmentation, mastopexy, reduction, and variations such as augmentation/mastopexy or plus/minus reductions. Because these are reconstructive cases, there are more implant options, including saline, gel, or combinations. Shaped or form stable implants may be better than round devices when a unilateral enlargement is needed. Asymmetric augmentation may involve 2 different-sized implants with differential fill volumes, and patients with chest wall asymmetry may also require the use of different profile implants. The value of using implant sizers in these patients cannot be overstated.

Mastopexy or reduction may be achieved with whichever technique you find reliable. It seems obvious that when performing an asymmetric reduction, you first need to reduce the larger breast. This strategy prevents inadvertent overreduction of the smaller side with the possible scenario of being unable to reduce the larger side to match it without compromising nipple areola circulation (Figure 6).

In patients that require a different operation on each breast, I do the more difficult or less controllable side first. For example, if the patient needs a mastopexy and reduction, I perform the mastopexy first to have a model to match with the reduction. Following are some guiding principles:

- Ask the patient which breast she prefers.
- Operate when the patient experiences the problem as a problem.
- Reduce the larger breast first.
- Work on the more difficult side first.
- The more similar the procedures (on each breast) the more long-lasting the result.
- Accept that there will be some deterioration of the result over time.

**Reimbursement Issues**

Unfortunately, there is a decided trend toward lack of insurance coverage for this type of surgery. The definition of reconstructive surgery approved by the American Medical Association House of Delegates in June 1989 is as follows: “Reconstructive surgery is performed on abnormal structures of the body, caused by congenital effects, developmental abnormalities, trauma, infection,
tumors, or disease. It is generally performed to improve function, but may also be done to improve appearance.” Third party payers do not recognize this definition and instead base their lack of coverage on the failure to prove medical necessity. The patient in Figure 1 was denied coverage for what should be readily apparent is not a purely cosmetic operation.

We must be strong advocates for our patients and assist them throughout the entire appeals process. Insist that that the denied case be reviewed by a plastic surgeon. You may be unable to persuade the patient’s insurance company that the surgery is indeed reconstructive and not cosmetic. Certainly those of us with our own surgical facilities have the option to take care of these patients at reduced fees. Many communities have programs for the working poor through which clinicians offer their services pro bono. Some of the more severe abnormalities may be covered through local “Crippled Children’s” programs.

To correct breast asymmetry challenges both our artistic and surgical skills. We are fortunate to have the training to perform what can be life-changing surgery on these young women. Educate the pediatricians, gynecologists, and family physicians in your community about your interest in caring for patients with breast deformities. Treat these patients with empathy and awareness, choose an operative strategy that meets their needs, and I assure you that their happiness will remind you why you chose plastic surgery as a profession.

Reference

Bibliography


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