

Augmentation of Asymmetric Breasts*

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ABSTRACT

This study was applied on 25 patients with asymmetrically small breasts. Preoperative assessment of nipple areola complex (NAC) site and size, site of inframammary crease, breast base and breast size difference was performed. The preoperative implant sizers were used to estimate the satisfactory breast size to the patient as well as the breast size difference. All patients were corrected surgically by application of subglandular asymmetrically sized breast implants. The implants were round, textured and either gel filled (23 cases) or saline filled (2 cases). The implant sizes were confirmed using the Intraoperative Implant Sizer. Symmetric satisfactory augmentation was achieved in 23 patients (92%) while one patient (4%) had a slight asymmetric NAC position. One patient (4%) with preoperative ptosis needed later further correction of ptosis. The results of this study indicated that the use of preoperative and intraoperative implant sizers together with careful preoperative linear assessment of the parameters mentioned proved to be almost ideal for treating patients with small asymmetric breasts.

INTRODUCTION

Breast symmetry is considered an attribute of beauty and normality and normal sized breasts will usually relate a feeling of adequacy. That is why women with asymmetric small breasts don't perceive themselves adequate or even normal [1]. Such asymmetry may be exaggerated after breast surgery if preoperative differences are not thoughtfully and precisely taken into account [2]. This excited studies for breast measurement to assess symmetry. Each method was judged as incomplete [3]. The aim of this work was to find out a simple, applicable and accurate protocol for assessment and treatment of patients with small asymmetric breasts.

PATIENTS AND METHODS

The study was done on 25 patients with asymmetrically small breasts. They were operated upon in the period from July, 2003 to July, 2005. Their

age ranged between 20-45 years old. All cases were subjected to accurate preoperative assessment of:

- NAC position which was measured from manubrium to center of nipple.
- NAC size (dimensions).
- Level of inframammary crease in relation to ribs.
- Breast base.
- Implant sizes that performed satisfactory and symmetric augmentation. Starting by the bigger breast, we applied an implant sizer (Fig. 1), inside the patient's bra to perform satisfactory augmentation elicited subjectively by the patient, the doctor and the nurse. Then, a bigger sizer was selected for the smaller breast to achieve symmetric augmentation. The sizes of implants were recorded inside the patient's file.

The examination findings were discussed with the patient and documented by photography. Preoperative markings were crucial and included:

- Breast meridia.
- Inframammary crease both actual and potential if asymmetrically situated.
- Breast base on standing position and confirmed on lying down.
- Incision either inframammary or periareolar.

Twenty three cases were done under general anesthesia while 2 were done under local infiltration anesthesia with sedation. Subglandular infiltration of equal amounts of 1/200,000 saline adrenaline bilaterally was carried out in all cases. Superior periareolar incisions were done in 2 patients with ptosis. Inframammary incisions were done in another 2 patients while 21 patients selected inferior periareolar incisions. Subglandular pocket dissection was either equal or unequal. Unilateral release of inframammary crease was done in 8 cases. The smaller implant was insetted first then insetting of

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an intraoperative sterile inflatable implant sizer in the other side. Inflation of the sizer with the pre-operatively estimated volume was followed by placing the patient upright at 90 degrees for assessment of symmetry. Adjustments were performed if needed. The sizer was replaced by the implant selected. Round, textured and gel filled implants were used for all patients except for 2 patients with chest wall asymmetry. Saline filled wide base implants were selected for them. No operative attempt to change NAC size was done, while Almost equal bilateral elevation of NAC position in two patients with ptosis was needed. Wound was closed after final reassessment. Taping of unwanted sites of dissection was done. Properly sized medical bra with adjustable straps were fitted.

RESULTS

All patients had breast mound volume asymmetry (100%). Areolar size asymmetry was found in 6 patients (24%) while NAC position asymmetry in 13 patients (52%), inframammary crease position asymmetry in 8 patients (32%) and chest wall asymmetry in 2 patients (8%) (Table 1).

Symmetric satisfactory augmentation was performed in 23 patients (92%) (Fig. 2). One patient had a slight asymmetric NAC position (4%) (Fig. 3). One patient with preoperative ptosis needed

bigger implants (enough to expand her skin bra-siere) or circumareolar skin reduction.

We did not have any case of haematoma, infection, scar problems or capsular contracture.

Table (1): Results of the studied cases.

	No.	%
Areolar asym.	6	24
NAC asym.	13	52
Inframam, crease asym.	8	32
Chest wall asym.	2	8
Sym. Satisf. augm.	23	92

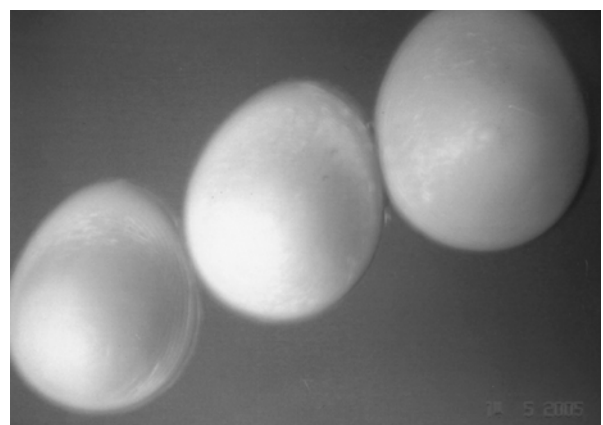


Fig. (1): Pre-operative implant sizers.



Fig. (2): (A) Pre-operative oblique right, front and oblique left views of 22 years old patient with asymmetric small breasts.

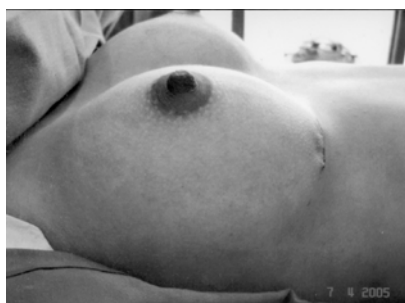


Fig. (2): (B) Intra-operative view after application of gel-filled breast implants of different volumes. Rt. 300cc and Lt. 325cc.



Fig. (2): (C) Post-operative view.



Fig. (3): (A) Pre-operative oblique right, front and oblique left views of 28 years old patient with asymmetric small breasts.



Fig. (3): (B) Intra-operative view after application of gel-filled breast implants of different volumes. Rt. 325cc. Lt. 375cc.



Fig. (3): (C) Post-operative view showing asymmetric NAC levels.

DISCUSSION

Although much is written concerning breast augmentation, few authors had addressed preoperative chest wall analysis as it pertains to postoperative outcome. Breast augmentation without appreciating a preoperative discrepancy between the breast pair will leave them looking more out of balance [4]. This excited few authors to estimate breast measurements and asymmetry which is a real common problem. Loughry et al. [5] reported that 99.6% of all women have breast size asymmetry, most of them 100ml of less difference. Rohrich et al. [4], estimated 88% of all women having some degree of breast asymmetry including volume or other breast parameters.

There is currently no standard objective method for the assessment of breast asymmetry. The objective linear measurements have yielded conflicting results: Stark and Olivari [6], obtained favourable results while Smith et al. [7], reported poor correlation with aesthetic and symmetry scores. However, the authors used linear measurements did not specify exact definitions for their point of reference [3]. Volume measurements using fluid displacement method [8] or plaster of Paris moulds [7], can provide a measure of overall symmetry, but these contact procedures are cumbersome to patients and possess limited reproducibility and hence accuracy [1]. Grossman Rounder Device for breast volume measurement utilized a variable cone [2]. It didn't measure all the breast tissue, since the tip of the cone is not always filled when a firm or very small breast is measured. In addition some of the tissue lateral to the pectoral fold may not be within the cone [3]. Biostereometric analysis [5], shape system [9], body map system [1], anthropomorphic measurement [3], three-dimensional imaging [10] and Cavalieri principle using magnetic resonance images [11] are other methods to determine breast volume. They proved to be accurate but share a major drawback of requiring special apparatus and being not portable.

This study was performed on patients with bilateral asymmetrical hypomastia as termed by Schurter and Letterman [12] and by El-Sahy [13] or bilateral asymmetrical hypoplasia by Malata et al. [1] in their morphological classification of breast asymmetry. The volume difference between the breast pair of the 25 patients ranged between 25-100ml. The other breast parameters asymmetry found in the 25 patients were NAC position in 52%, inframammary crease position in 32%, NAC size in 24% and rib cage asymmetry in 8%.

Photographing is critical for asymmetric deformities. Most patients are unable to remember how small or different her breasts were once they incorporate their new size into the body image.

Preoperative marking of breast meridia prevented any possible diversions if attempts of changing the NAC position or dimensions. Marking of breast base limited unwanted surgical dissection and helped achieving symmetry of breast position on chest wall. Marking of inframammary crease, the actual and potential, made its adjustment more accurate.

Intraoperative subglandular infiltration was equal in amount and distribution not to interfere with volume adjustment.

Most patients preferred inferior periareolar incisions (done in 21 patients). Superior circumareolar incisions were chosen for 2 patients with ptosis to permit lifting of the NAC. Inframammary incisions were done in 2 patients on demand of them. However, small areola is a contraindication of circumareolar incision. Axillary incisions better to be avoided in asymmetric breast augmentation especially if associated with asymmetric inframammary crease level. It will be somewhat difficult to release inframammary crease from far axillary incision.

Subglandular placement of breast implants were easier in adjusting volume difference than submuscular site. The patients preferred gel filled implants because of their superior natural texture. However, rib cage deformity in 2 patients necessitated the use of wide base saline filled implants to camouflage their deformities and facilitate volume adjustment.

The use of intraoperative inflatable implant sizer was easy and almost accurate in performing breast symmetry. The intraoperative implant sizer is not for resterilization. This increased the cost by almost the same price of one breast implant.

Placing the patient upright at 90 degrees for precise visual assessment of symmetry seemed to be more appropriate than 45 degrees.

The breast parameters needed to be adjusted to perform symmetric augmentation were; breast volume, pocket dissection and inframammary crease. The NAC position and size needed no change. The bigger implant in a properly dissected pocket and adjusted inframammary crease expanded the smaller areola and transpose it. Even in ptotic asymmetric breasts, the NAC were elevated the same distance bilaterally.

There was correlation between breast volume and other breast linear parameters. On adjusting volumes of asymmetric breasts without paying attention to other parameters, we would have volumetrically symmetric breasts but might be at different levels on the chest wall, with different NAC position or dimensions and even with different projections.

Symmetric satisfactory augmentation was performed in 23 patients (92%). One patient had slight asymmetric NAC position most probably due to asymmetric adjustment of inframammary crease or pocket dissection. Another patient with preoperative moderate ptosis needed bigger implants enough to expand her skin brassiere. We excluded circumareolar skin reduction because of her positive history of hypertrophic scar formation.

The use of preoperative and intraoperative implant sizers to adjust breast volume asymmetry supported by objective linear measurements of the associated asymmetric breast parameters and their adjustment proved to be simple, applicable and almost accurate in performing symmetrically augmented breasts.

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