

## **Unifying the Surgical Approach When Using Two Different Procedures in Asymmetric Breasts. Does it Worth?**

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### **ABSTRACT**

In asymmetric breasts, one breast usually requires reduction or mastopexy and the other requires augmentation. One has to be aware of patient's motives and expectations. A woman may be dissatisfied if she has two different patterns of scars after augmentation of one side and reduction of the other side. As a trial to achieve symmetry, the authors planned to use the same approach for the two different procedures in both breasts. The aim is to end up with the same pattern of surgical scarring in these patients, as well as symmetry of the size, shape, and location of the areola. The circumareolar approach was selected in 15 cases, and they were followed-up for up to 3 years. Subjective and objective assessment of the outcome was done. The results were satisfactory, and symmetry was achieved in all patients. No major complications were recorded. The authors finally recommended this approach in cases of breast asymmetry, when augmentation is planned in one side and reduction is planned in the other.

### **INTRODUCTION**

Normal asymmetry does exist. Most women have some degree of breast asymmetry, but severe asymmetry that may warrant plastic surgery is rare [1].

There are many causes of breast asymmetry. They are congenital, developmental, tumors, post surgical sequences, or idiopathic. Battersby et al., found that post lactation breast atrophy is due to irreactivity of steroid receptors. Sometimes, this is unequal on both sides resulting in asymmetric hypoplastic breasts [2].

Injury to breast bud, e.g. deep thermal burn, during early developmental years may cease or hinder breast growth [3,4,5].

Patients often present to plastic surgeons with breast asymmetry of unknown etiology. Many females in late adolescence may complain of hypoplastic breast on the smaller side. However, full evaluation may reveal that the larger breast contains the abnormality e.g. fibroadenomas, or hamartoma [6,7,8].

The issue of asymmetric breasts includes many types.

Either there is a unilateral macromastia, unilateral hypoplasia, asymmetric hypoplasia or asymmetric macromastia.

A classification was developed as a guide in treatment planning [9]. This included 6 groups. Group (1) is bilateral asymmetric hypertrophy. Group (2) is unilateral hypertrophy. These are treated with reduction mammoplasty. Group (3) is hypertrophy in one side and hypoplasia of the other side. This is treated with both reduction and augmentation. Group (4) is unilateral amastia or hypoplasia. This is treated with unilateral breast reconstruction, or augmentation, and sometimes modification is added to the normal side. Group (5) is asymmetric hypoplasia and is treated with unequal augmentation. Group (6) is unilateral mammary ptosis and is treated with mastopexy with augmentation. This classification did not include tuberous breasts.

This article is concerned only with cases that are treated with augmentation of one side and reduction or mastopexy of the other side. The periareolar approach to augmentation mammoplasty was introduced by Jones and Taurase, and Jeny [10,11]. It provides an easy access to all of the dissection planes for the implant. It gives the option of a central point of access, which allows easy and accurate dissection in all directions for creation of the implant pocket. The periareolar scar is normally not conspicuous. Benelli and Goes, described that approach for mastopexy and reduction of moderate breast hypertrophy [12,13].

Stoff-Khallili et al. [14], used this for augmentation regardless the size of the areola, particularly in the patient group needing a mastopexy. They found that this incision is appropriate.

Some cases of breast asymmetry represent a challenge for the aesthetic surgeon. These are the cases that need reduction of one breast and augmentation of the other. This is because of the use of two different procedures which may differently affect the shape, projection, location of the nipple and areola, and the site of surgical scar. For that reason, the authors used the circum-areolar approach in both breasts for the two procedures. The aim is to minimize scarring and minimize the differences between the two sides as a trial to achieve symmetry of the final scar, as well as symmetry in size and shape of the breasts.

### PATIENTS AND METHODS

This study was conducted on 15 female patients with breast asymmetry. Their age ranged from 17 to 36 years. The study took the period from April 2003 to December 2006. The selected cases were those who were requiring augmentation of one breast and reduction or mastopexy of the other.

The aim of surgery is to achieve symmetry in breast size and shape, as well as the site of the areolae and the site of the surgical scar. The authors selected to use the circum-areolar approach for both breasts. This was assumed to minimize scarring and give symmetric surgical scar.

#### *Preoperative marking:*

The inframammary fold was marked on both sides and mid-clavicular points were determined. The midline, the right and left anterior axillary lines were also marked. For marking a periareolar outer circle on reduction side, the authors have modified Benelli's method [12], taking the other side measurements as reference. This was performed as follows: The following measurements were taken on the side that will have the augmentation: A- The distance between mid-clavicular point, or supra-sternal notch and upper border of the areola. B- The distance between anterior axillary line and lateral border of the areola. C- The distance between the mid-inframammary and lower border of the areola. D- The distance between the midline and the medial border of the areola. These measurements are simulated on the other side by marking four points: a,b,c, and d, around the areola. These points are connected to have a circle around the areola (the outer circle). The inner circle is marked to have equal diameter of the areola on both sides. The area between the inner and outer circles is the area that is going to be de-epithelialized (Fig. 1,A).

#### *Operative technique:*

The authors always start with augmentation. Unless the areola needs reduction of its size, only semi circum-areolar incision is done (the lower half) if its size is small, a semilunar area is de-epithelialized and the skin incision is done along its outer border. Subcutaneous dissection is done till the lower pole of breast is reached then the lower pole is incised to the length of about 6cm dissection of a retromammary pocket is then blindly achieved by blunt dissection. Then, application of the implant under strict aseptic precaution closure of the lower pole with 2-0 PDS few interrupted sutures. Then, subcutaneous and skin closure of the semicircumareolar incision was done. Then we shift to deal with the other breast. First, the measurements are re-checked before incision of the outer and inner circles. Then, the amount of reduction is estimated. After de-epithelialization, incision of the outer circle is completed till the level of subcutaneous fat. Subcutaneous dissection is carried on, and then excision of the needed amount from the lower pole is done. Closure of the breast pillars is performed using 2-0 PDS sutures. Good hemostasis is achieved. A burse-string suture is routinely done using 2-0 non-absorbable suture material, in order to avoid widening of the areola. Then, subcutaneous and skin are closed without drains. Elastic adhesive bandage is applied and left for 10 days.

#### *Follow-up and evaluation of the outcome:*

Patients were followed-up regularly postoperatively. The outcome of surgery was assessed clinically. Follow-up notes were recorded. Subjective evaluation of breast symmetry as regards size, shape, and site of nipple-areola complex, and surgical scars was done by asking the patient herself and the opinion of one of the coworkers. Objectively, the authors measured the four measurements taken during the preoperative markings, and the diameter of the areola, and compared these measurements on both sides.

### RESULTS

The outcome of surgery was satisfactory to all patients. The follow-up period ranged from 6 months to 30 months. Subjectively, the two breasts are totally symmetrical in 11 patients (73%). Figs. (1,2,3) show preoperative and postoperative photographs as an example. Mild asymmetry was still found in 4 patients (26%), as noticed by the evaluating coworkers. This mild asymmetry was not considered by the patients. Two of them showed still slightly larger the reduced side. One of them

showed slightly more projecting the implanted side the fourth showed relatively lower ripple areola complex. One patient was not happy with a hypopigmented scar of an intra areolar incision. She has a dark skin type. She was prepared for scar revision, but she did not come. Fine skin corrugations occurred in most cases radiating from the areola of the reduction side. This was totally disappeared after 8 weeks.

Objectively, the measurements revealed that in 9 cases of the 15 (60%), the 4 measurements: A,B,C and D were exactly equal in both sides. One case showed 0.5cm difference only in one measurement, the mid inframammary-areola distance (distance C). The other 5 cases (33%) showed differences in more than one measurement. However, the average difference is only 0.5cm, and the maximum difference is 1.5cm. The mean difference between both sides in distance A preoperatively was 4.8 (min=2.5 & max=9). Post operatively, this

figure is only 0.2 (range: 0:1.5). The mean difference in distance B is 2.6 (range: 4.5:1.5), postoperative mean difference is 0.1 (0:0.5). The difference in distance (C) showed a mean of 2.6cm (range=1.5:5) in the preoperative measurements postoperatively this mean difference is 0.2 (0:0.5). The distance (D) preoperatively showed a mean difference of 2.4cm (1.5:4) between the 2 breasts. Postoperatively, the mean difference was 0.1cm (0:0.5).

Table (1) showed these differences in each case. No major complications (such as: Hematoma or seroma necessitating interventions, infection, dehiscence, or sloughening) were encountered. Two patients has transient numbness and diminished nipple sensation in the augmented side. Three patients have this in the reduction side. This returned back gradually to normal after 6 weeks. No widening of the areola was encountered during the follow-up period.

Fig. (1): A 19 year old patient with developmental asymmetric breasts, 250 cc silicon gel implant was applied in the left side, and mastopexy of the right.

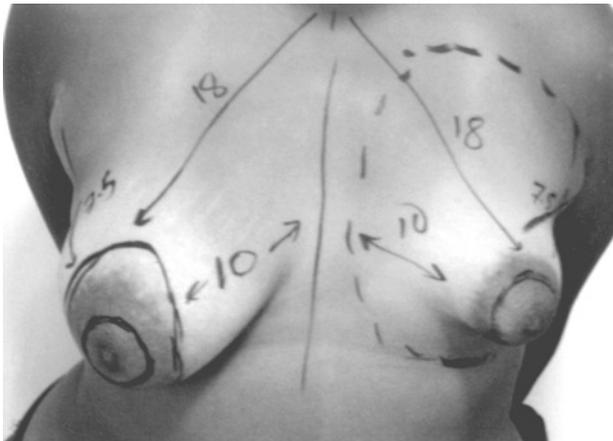


Fig. (1-A): Preoperative front view with the preoperative markings drawn.



Fig. (1-B): Postoperative front view of the same patient. Notice the hypopigmentation of the scar.



Fig. (1-C): Preoperative oblique view of the same patient.



Fig. (1-D): Postoperative oblique view.



Fig. (1-E): Close up view of the left areola shows the hypopigmented scar.

Fig. (2): Another 19 year old patient with developmental asymmetry of the breasts. 180 cc implant was applied to right side, and mastopexy of the left.

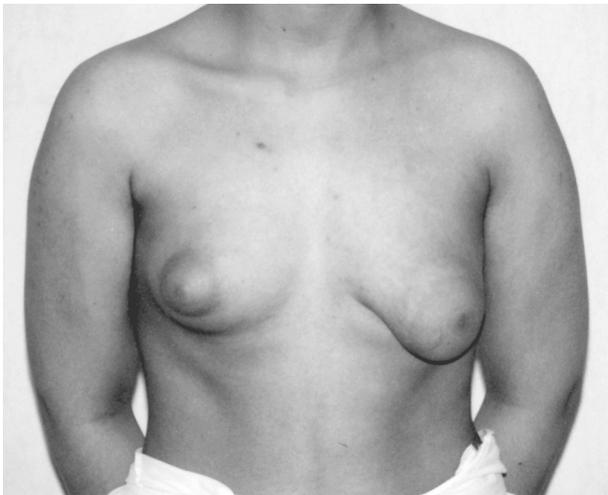


Fig. (2-A): Preoperative front view. Notice the difference in size, shape, areolar level and diameter.

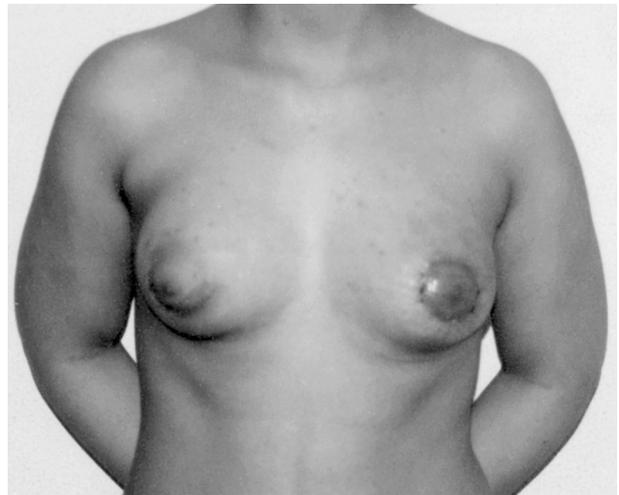


Fig. (2-B): Postoperative front view, same case (after 1 month).

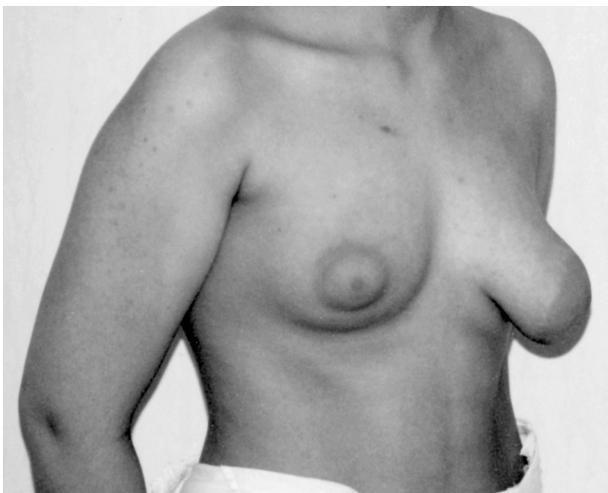


Fig. (2-C): Preoperative oblique view.

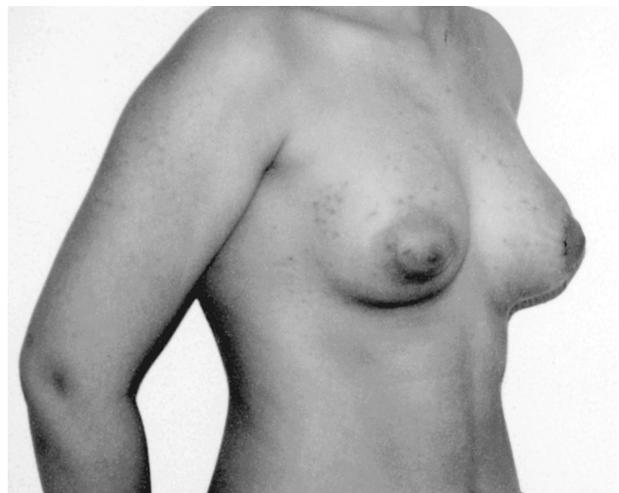


Fig. (2-D): Postoperative oblique view.

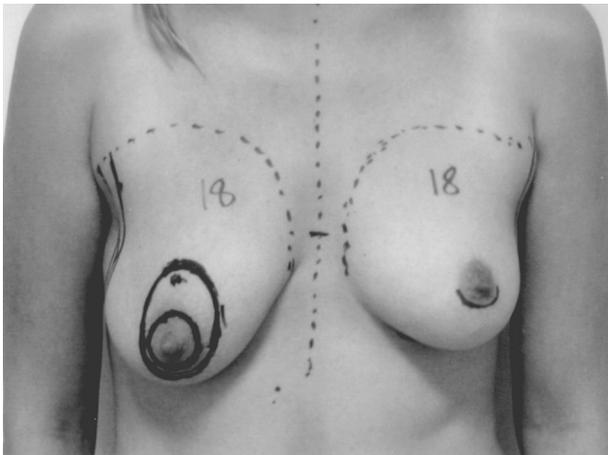


Fig. (3-A): A 24 year old case with breast asymmetry, preoperative front view.



Fig. (3-B): Post operative front view, same case 200 cc implant was put in the left side, and mastopexy to the right.

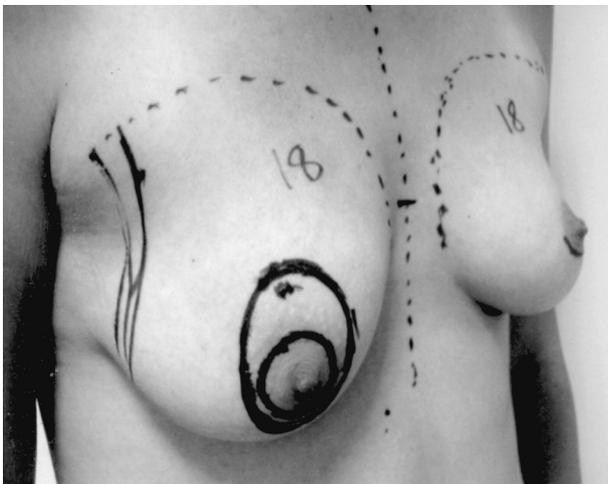


Fig. (3-C): Preoperative oblique view.



Fig. (3-D): Postoperative oblique view.

Table (1): Differences between the two breasts in each measurement, pre and postoperatively.

Case #	Age (year)	A		B		C		D	
		Pre	Post	Pre	Post	Pre	Post	Pre	Post
1	34	9	1.5	4.5	0.5	5	0.5	4	0.5
2	23	6	0.5	3	0	3	0.5	3	0
3	19	5.5	0	2.5	0	2	0	2.5	0
4	21	6.5	0	4	0	3	0	3.5	0
5	17	6	0.5	3.5	0.5	3	0	3.5	0
6	24	4	0	2	0	2.5	0	1.5	0
7	29	2.5	0	1.5	0	1.5	-0.5	1.5	0
8	27	3.5	0	2	0	1.5	0	1.5	0
9	23	7	0.5	4	0.5	3.5	0.5	3.5	0.5
10	19	5	0	2.5	0	2.5	-0.5	2	0.5
11	22	3.5	0	2	0	2	0	2.5	0
12	27	3	0	1.5	0	2	0	1.5	0
13	36	4	0	1.5	0	2.5	0	1.5	0
14	24	4.5	0	3	0	3.5	0	2.5	0
15	28	3	0	1.5	0	2	0	1.5	0
Mean	24.9	4.8	0.2	2.6	0.1	2.6	0.2	2.4	0.1

A = Distance A. B = Distance B. C = Distance C. D = Distance D.

Pre = Preoperative difference between the two breasts in the measured distance in cm.

Post = Postoperative difference of the same distance.

## DISCUSSION

The current study aimed at achieving refinement of the surgical outcome in selected cases of breast asymmetry. These are the cases which need unilateral breast augmentation, and reduction of the contralateral side. One has to be aware of the patient's motives and expectations. Also, the tissue response to surgery, and skin response to incisions have to be considered. The challenge in that situation is that we have two different procedures in both breasts in a case that has a problem in the symmetry. Not only symmetry in the size that is looked for, but symmetry of the shape, projection, areola diameter and location, and even the final scar as well. All of these parameters are differently affected by the different techniques. The authors thought to unify the surgical approach for the two procedures to achieve symmetry of the site of the surgical scar. The circumareolar approach was selected as it is suitable for whatever the procedure is, and it is associated with minimal scarring. Its scar is also normally concealed in a junction zone between two patterns of skin.

The measurements used during preoperative markings of the outer circle in reduction side determine the location of the nipple/areola complex (NAC). The authors used 2 vertical and two horizontal measurements (2 in each vector). This represents a good tool of accuracy, for maximum fine adjustment of the location of NAC. This has been reflected on the final results, as 60% of cases showed complete symmetry of location of NAC, as confirmed with the four measurements. Intraoperative measurement after implantation also had a value, because of the slight change after the augmentation has been considered. Subjectively, symmetry was achieved in 73% of cases. The only drawback was in one patient that was unhappy with the intra-areolar hypo pigmented scar (Fig. 1,E). Intra-areolar incision was later avoided. The burse string suture with non-absorbable material that was routinely done in reduction side was helpful to avoid widening of the areola, a common drawback with the circum areolar approach for mastopexy or reduction. The patients were followed-up for up to 30 months in some of the 15 cases. However, longer period of follow-up of large number of cases is recommended. In conclusion, the circum areolar approach could help to refine results and achieve symmetry in patients needing two different procedures for asymmetric

breasts. Larger scale study and longer follow-up periods are still required.

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