Stand-Alone Liposuction in Breast Reduction, Is it Time to Reconsider?

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Abstract

Background: Breast reduction by Liposuction alone as a treatment of hypertrophied breast enlargement has been reported since the past century but its use has been limited. In the past three decades, traditional liposuction has become the most frequent surgical procedure all over the world. Originally, liposuction alone as a treatment for breast enlargement was applied to women with nipple areola complex well placed but large breasts with ptosis traded by traditional surgical technique conclusion from this article is that no single procedure can use for all females and it depends on its goal from surgery, the anatomy and surgeon's skills. The first concept of reduction of breasts must do with tightening of the skin. Now liposuction provide a choice for reduction with minimal complications and fast recovery .breast reduction by liposuction isn't the best choice for all patients our understanding for its strength points and weakness allow for its use in larger number of females with breast enlargement.

Objectives: The study was undertaken to evaluate the effectiveness of liposuction breast reduction in improving the aesthetic appearance and to enhance better life style for those patients by reducing breast weight.

Patients and methods: This study took place on 18 cases who were subjected to physical examination of the patient, preparation for surgery [by preoperative investigations including (CBC, liver function test, kidney function test, PT, PTT and INR), mammography and preoperative consultation] and preoperative photography. After the operation, a supportive binder was applied for a period of 48 hours, and patients were instructed to wear a compression garment continuously, apart from during showering, for 2 weeks. They could choose to wear a sports bra for 2 additional weeks. Showering was allowed the morning of the day after the procedure. There were no restrictions on light daily activities, which could be performed on the first day after the procedure. Patients who performed heavy physical work were told to refrain from doing so for 1 week after the procedure. Sporting activities were to be resumed gradually.

Results: The mean age was 32.8 ± 9.8, most of them (72.2%) were married and 61.1% were lactating. There were highly significant changes in grade and also the measured ptosis in right and left breasts. Nipple sensation was the same in
80.6% of patients. Satisfaction with liposuction reduction also compares favorably with standard reduction. Patients were asked to give a score to reflect their satisfaction with the procedure. All patients except three (16.7%) were satisfied with the results (n = 15, 83.3%).

**Conclusion:** Liposuction is effective scar less operation for hypertrophied breast reduction. Complications are minor and infrequent, and patients are able to return to normal daily activities within 3 to 4 days after the procedure.

**Keywords:** Aesthetic Anatomy of Breast; Liposuction; Female Breast Reduction

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**Introduction**

Liposuction removes fat in an attempt to change its shape. Serious complications include deep vein thrombosis, organ perforation, bleeding, and infection [1]. Breast reduction surgery (reduction mammoplasty) removes some of the tissue and skin from the breasts to reduce the size. It can also make the area of dark skin surrounding the nipple (areola) smaller. It is typically done under general anesthesia. The surgery usually takes 3 to 5 hours. For smaller reductions, the surgery may be done with local anesthesia [2]. Breast reduction performed with the liposuction-only technique usually suits woman whose oversized breasts require removal of a medium volume of internal tissue; and to those who cannot be under the extended anesthesia. The ideal candidate is a woman with low-density breasts, principally composed of adipose tissue, a relatively elastic skin, and mild manifest ptosis. Therapeutic advantages of the liposuction-only technique are the small scar required for access to the breast interior, hence, a shorter postoperative healing period. The therapeutic disadvantage is limited breast-reduction volumes [3]. Lanzer, reported that application of tumescent liposuction, as the sole reduction-mammoplasty procedure, yielded similar results wherein none of the patients had loose breast-skin, irregular breast-shape, permanent loss of sensation (either glandular, dermal), scars, tissue necrosis, or infection [4]. In this study, we evaluate the effectiveness of liposuction breast reduction in improving the aesthetic appearance and life style by reducing breast weight.

**Methods**

- **Physical examination of the patient.**
- **Preparation of the patient for surgery by**
  1. Preoperative investigation: CBC, liver function test, kidney function test, PT, PTT and INR.
  3. Preoperative consultation: anesthesia consultation, any other consultation if needed.
- **Preoperative photography and informed consent from the patient.**

**Operative Technique**

- Preoperatively the patient stands upright and marked before surgery. An area is marked between the clavicle and breast tissue beginning, calling this area (danger area) [5].
  - It equal a hand breath and must avoiding suction it, because it is highly vascular and haven’t breast tissue. It is important to mark it in upright position as in supine position the surgeon can’t detect the beginning of the breast tissue superiorly. So, danger area keep us away from suctioning a necessary area [6].
  - We must take notes about asymmetry and differences between both breasts. Lateral chest wall should also be marked to be suctioned if have excess fat [7].
- Surgery was performed by general anesthesia
- Breasts area prepared by traditional standard protocol.
- Liposuction access incision is marked on the anterior axillary line 1 cm just above the inframammary crease [8].
  - 1 cm incision is made and Tumescent infiltrating solution used per about 1 liter per every breast smaller amount or larger can used for smaller or bigger breasts. We wait for 20 min so the adrenaline be effective as hemostatic [8].

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**Patients and Methods**

**Inclusion Criteria**

Young patients with breast hypertrophy.

**Exclusion Criteria**

- Breast lumps by examination.
- Mammography detected breast masses.
- Anticoagulant medication administration.
- Renal failure or liver failure.
- Redundant skin.

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We start suctioning by 5 mm or 4 mm cannula avoiding danger area and not to forget lateral chest wall.
Suction end when we have a satisfied result and symmetry of both breasts [7].
Covering the incisions by absorbent pad.
Tiet bra is applied and blinder is placed onto it.
Discharging the patient when stable [5].

Postoperative Period
After the operation, a supportive binder was applied for a period of 48 hours, and patients were instructed to wear a compression garment continuously, apart from during showering, for 2 weeks. They could choose to wear a sports bra for 2 additional weeks. Showering was allowed the morning of the day after the procedure. There were no restrictions on light daily activities, which could be performed on the first day after the procedure. Patients who performed heavy physical work were told to refrain from doing so for 1 week after the procedure. Sporting activities were to be resumed gradually.

Results
Table 1 showed that the mean age was 32.8 ± 9.8, most of them (72.2%) were married and 61.1% were lactating.
There were highly significant changes in grade and also the measured ptosis in right and left breasts (Table 2).
Nipple sensation was the same in 80.6% of patients (Table 3).
All patients except three (16.7%) were satisfied with the results (n = 15, 83.3%) (Figure 3).

<table>
<thead>
<tr>
<th>n = 18</th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>Mean ± SD</td>
<td>Range</td>
<td></td>
</tr>
<tr>
<td></td>
<td>32.8 ± 9.8</td>
<td>17-50</td>
<td></td>
</tr>
<tr>
<td>Marital status</td>
<td>Unmarried</td>
<td>Married</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 (27.8%)</td>
<td>13 (72.2%)</td>
<td></td>
</tr>
<tr>
<td>Lactation</td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7 (38.9%)</td>
<td>11 (61.1%)</td>
<td></td>
</tr>
</tbody>
</table>

Table 1: Characteristics of the studied women.

<table>
<thead>
<tr>
<th></th>
<th>Preoperative</th>
<th>Postoperative</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>%</td>
<td>No</td>
</tr>
<tr>
<td>Grade</td>
<td>I</td>
<td>2</td>
<td>11.1</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>16</td>
<td>88.9</td>
</tr>
<tr>
<td></td>
<td>Pseudo</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Right Mean ± SD</td>
<td>31 ± 1.1</td>
<td>25.9 ± 1.3</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Right Range</td>
<td>29-33</td>
<td>24-29</td>
<td>(HS)</td>
</tr>
<tr>
<td>Left Mean ± SD</td>
<td>30.3 ± 1</td>
<td>25.7 ± 1.5</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Left Range</td>
<td>29-32</td>
<td>24-29</td>
<td>(HS)</td>
</tr>
</tbody>
</table>

Table 2: Assessment of patients pre- and post-operatively. p < 0.001: Highly significant changes.
Table 3: Postoperative findings.

<table>
<thead>
<tr>
<th></th>
<th>Increased</th>
<th>Decreased</th>
<th>Same</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>%</td>
<td>No</td>
</tr>
<tr>
<td>Nipple sensation</td>
<td>Apr</td>
<td>36</td>
<td>11.1</td>
</tr>
<tr>
<td>Ptosis</td>
<td>17</td>
<td>Jan</td>
<td>5.9</td>
</tr>
<tr>
<td>Body weight since surgery</td>
<td>18-Jan</td>
<td>5.6</td>
<td>18-Oct</td>
</tr>
<tr>
<td>Quality of life</td>
<td>14/18</td>
<td>77.8</td>
<td>0/18</td>
</tr>
</tbody>
</table>

Discussion

Women who have large, pendulous breasts frequently suffer from neck pain, back pain, shoulder pain, and discomfort from bra straps. Women ask for breast reduction for several reasons. Large heavy breasts are frequently a problem and can result in neck, back, and shoulder pain and inframammary skin irritation. Physical activities may be limited because of large breasts, thereby affecting the patient’s general health. Clothing choices can also be limited, thereby affecting the patient’s social life. Breast reduction using surgical excision can resolve most of these problems, and a variety of such techniques is available, but potential complications after breast reduction by excision are not uncommon, including extensive scarring, morbidity from general anesthesia, poor cosmetic results, and prolonged recovery. In general, there is a trend toward patients preferring minimally invasive surgery, and liposuction with TLA conforms to this trend. The main reasons that patients give for choosing liposuction with TLA are that general anesthesia is avoided and scar formation is negligible [6].

The most common method of breast reduction is excision, and several surgical techniques are available, for which general anesthesia is usually required. However, complications such as postoperative pain, severe scarring, necrosis of the nipple-areolar complex, and prolonged healing times are common, leading to long down-times.

Breast reduction using liposuction with tumescent local anesthesia (TLA) could eliminate most of these complications [7].

The study was undertaken to evaluate the effectiveness of liposuction breast reduction in improving the aesthetic appearance and to enhance better life style for those patients by reducing breast weight.

The 18 cases who were subjected to physical examination of the patient, preparation for surgery [by preoperative investigations including (CBC, liver function test, kidney function test, PT, PTT and INR), mammography and preoperative consultation] and preoperative photography.

After the operation, a supportive binder was applied for a period of 48 hours, and patients were instructed to wear a compression garment continuously, apart from during showering, for 2 weeks. They could choose to wear a sports bra for 2 additional weeks. Showering was allowed the morning of the day after the procedure. There were no restrictions on light daily activities, which could be performed on the first day after the procedure. Patients who performed heavy physical work were told to refrain from doing so for 1 week after the procedure. Sporting activities were to be resumed gradually.

In our study, the mean age was 32.8 ± 9.8, most of them (72.2%) were married and 61.1% were lactating. There were highly significant changes in grade and also the measured ptosis in right and left breasts. In a study done by Habibena, preoperative mammograms were normal, with the exception of one patient. In this patient, a preoperative biopsy revealed normal tissue [7]. The average preoperative value of the ptosis was 6.5 cm, ranging from 0.8 to 13 cm. At 6 weeks postoperatively, the average value was 3.6 cm, ranging from 0 to 8.5 cm.

The efficacy of liposuction breast reduction compares to that of traditional open techniques and the complication rate is lower. Brown, et al. has shown complication rates as high as 33 to 34 percent [8]. In our study, nipple sensation was the same in 80.6% of patients. In the study done by Habibena, all mammograms showed normal breast tissue, no new calcifications, and except for the smaller size of the breasts and a denser aspect of glandular tissue, no difference from the preoperative mammograms [7]. In our study, satisfaction with liposuction reduction also compares favorably with standard reduction. Patients were asked to give a score to reflect their satisfaction with the procedure. All patients...
except three (16.7%) were satisfied with the results (n = 15, 83.3%).

In the study done by Habbema, all patients except one (0.7%) were mostly (n = 33, 21.8%) or very (n = 117, 77.5%) satisfied with the results [7]. The one patient who was not totally satisfied had the smallest breasts. The cup size of the bra is an inaccurate indicator of breast size. The brand, the material (elastic or nonelastic), and personal comfort (wide, tight or very tight) determine the patient's bra size. Treatment of the subaxillary fat changes the circumference of the breast, consequently influencing cup size. Some patients will wear the same bra after the procedure, often finding that the fit is more comfortable.

This study described the results of the first study in which a large number of breast reductions using liposuction with TLA were performed on a series of patients with a wide range of ages. Precise measurements before and during surgery and at follow-up visits provided further insight into defining the criteria for the selection of patients to achieve the desired results. Liposuction using TLA and powered cannulas is a safe and effective procedure for breast reduction, with a high satisfaction rate for the patient.

Mellul, et al. published results of their study on breast reduction using liposuction only, describing their treatment of a group of nine highly selected patients [9]. The number of publications concerning liposuction of the breast has increased, although few detailed studies on using exclusively liposuction for breast reduction have been conducted.

Liposuction was initially used in conjunction with excision to improve the overall result; although the potential complications from excision continued to be problematic [10]. Habbema evaluated the safety and efficacy of liposuction using tumescent local anesthesia (TLA) and powered cannulas [7]. They concluded that breast reduction using liposuction with TLA and powered cannulas is a safe and effective treatment modality in properly selected patients. Complications are minor and infrequent, and patients are able to return to normal daily activities within 3 to 4 days after the procedure. Sports and heavy physical activities can be gradually resumed, and patient satisfaction is excellent.

Asymmetry of the breasts is a common finding during initial consultation, but most women are neither concerned about nor, indeed, aware of any asymmetry.

If the asymmetry is due to differences in breast volume, this can be reduced by aspirating more fat from one breast than from the other, but if a difference in shape or position of the breasts or of the thoracic wall causes the asymmetry, this method cannot solve this.

**Conclusion**

- Liposuction is effective scar less operation for hypertrophied breast reduction. Liposuction breast reduction gives patients and surgeons an effective choice in the management of breast hypertrophy and does so with little downtime, minimal scarring, and high patient satisfaction.
- Complications are minor and infrequent, and patients are able to return to normal daily activities within 3 to 4 days after the procedure. Sports and heavy physical activities can be gradually resumed, and patient satisfaction is excellent.

**References**

