Original Article

CONVENTIONAL LIPOSUCTION AS A SINGLE MODALITY FOR TREATMENT OF GYNECOMASTIA, OUR CLINICAL EXPERIENCE

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Abstract

Background: Gynecomastia is defined as enlargement of male breast due to benign proliferation of glandular tissue. Its incidence varies between 32 and 65%. Owing to the unfavorable shape of the chest with distorted body image, many patients seek treatment for aesthetic and psychological concerns. Due to its limited invasiveness and superior contouring results, liposuction has been the most popular surgical procedure, either alone or in combination with excisional techniques. In this study, we aim to evaluate the efficacy of liposuction alone in patients with grade I, II and III gynecomastia.

Methods: Twenty patients with gynecomastia grade 1,2 or 3 were included in this research in the period between March 2018 to March 2022. All patients were treated with liposuction alone with post-operative compression garment wearing.

Result: There were no hematoma, seroma or infection. Results were excellent in 14 patients, good in 3 patients, and inadequate in 3 patients. 2 cases of the group of inadequate result were due to residual sub areolar swelling and the other case was due to inadequate skin retraction with 85% success rate.

Conclusions: We can conclude that gynecomastia treatment with the liposuction alone produced acceptable results with minor scars, however, it should be noted that it is not suitable for all grades of gynecomastia that may need open excisional techniques.

Keywords: Gynecomastia, Liposuction.

Introduction

Unlike female breast, male breast is composed of small amount of ductal and stromal tissue instead of the glandular tissue [1].

Gynecomastia is defined as enlargement of male breast due to benign proliferation of glandular tissue. Its incidence varies between 32 and 65% [2].

Its etiology can be physiological or pathological. Physiological gynecomastia is seen during neonatal period, puberty, and elderly.

Pathological condition can have a variety of causes, but the majority is idiopathic. [3]

Owing to the unfavorable shape of the chest with distorted body image, many patients seek treatment for aesthetic and psychological concerns. The major goals of therapy are to restore the ideal male pattern chest shape and

position of the nipple-areolar complex with few and undetectable scars. [4] Surgical treatment continues to be the cornerstone of care for those patients. Open excisional techniques or liposuction are the two main lines of surgical treatment modalities based on the patient's features.[5].

Due to its limited invasiveness and superior contouring results, liposuction has been the most popular surgical procedure, either alone or in combination with excisional techniques. The most frequent concern with using this approach alone to treat gynecomastia is that it leaves behind sub areolar gland tissue, which may cause unfavorable aesthetic appearance and necessitates revision surgery. Suction-assisted liposuction (SAL) does not produce encouraging results in severe and fibrotic instances, either. However, it is still favored in cases of huge breasts with a high percentage of fat since it produces a superior chest contour with little scarring [4]

In this study, we will evaluate the efficacy of liposuction alone in patients with grade I, II or III gynecomastia

Patients and Methods:

This study was designed as a prospective study carried out at Tanta University Hospitals, Tanta, Egypt, in the period between March 2018 to march 2022.

After approval from the local ethical committee, 20 carefully chosen gynecomastia patients who presented to Department of Plastic and Reconstructive Surgery, Tanta University Hospitals for gynecomastia surgery between March 20018 and 2022 were included. The mean patient age was 25 (20-28). Preoperative pictures was used to determine the degree of gynecomastia. According to Rochrich classification; 12 cases had gynecomastia grade 2, 2 cases were grade 1 and 6 patients were grade 3 (Table 1). All patients were examined by the same surgeon, preoperative and postoperatively and photographs were taken.

Operative technique:

All patients are marked prior to surgery in the upright position. General anesthesia was used during all procedures. The patient was positioned supine with their arms at their sides, 90 degrees. Breast tissue on both sides and around the periphery was infiltrated with a solution of Ringer's lactate, 1 liter of which contained 30 ml of %1 lidocaine and 1 ml of 1:1000 adrenaline, using a tumescent technique via a single stab incision in the lateral part of inframammary fold to create a port for the insertion of an infiltration and suction cannula. Liposuction began 10 minutes after tumescent infiltration.

Depending on the thickness of the adipose tissue layer, liposuction of the deeper layers was performed with a 5.2 mm Mercedes cannula, followed by superficial or fine-contouring liposuction using a 3-mm cannula. Entire breast, as well as its periphery, was treated by this technique and the inframammary fold was disrupted.

During suction, contour changes were constantly assessed by direct observation. A close watch was also kept on the color and volume of the aspirate. Once a satisfactory contour was obtained, the surrounding fat was aspirated to avoid a significant saucer deformity. Following the procedure, a pressure dressing was applied on the chest. The patient was instructed to wear a pressure garment during day and night for 6 weeks. The average follow up period was one year (figures from 1 to 8).

Figure 1: Showing Gynecomastia patient with preoperative (A, C, E) and postoperative images (B, D, F)

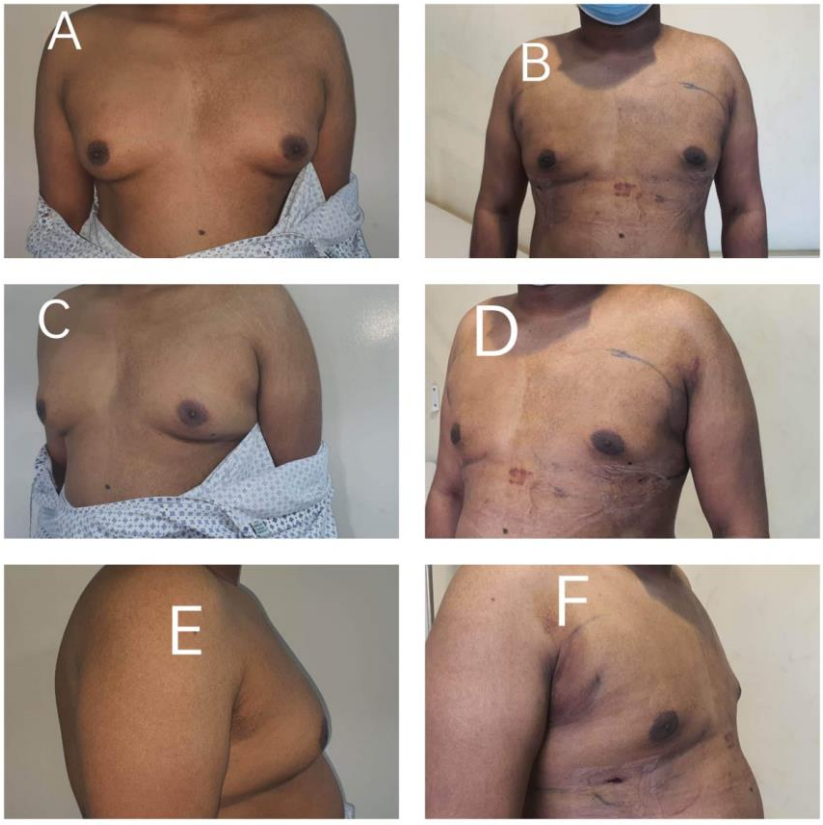

Figure 2: Showing Gynecomastia patient with preoperative (A, C, E) and postoperative images (B, D, F)

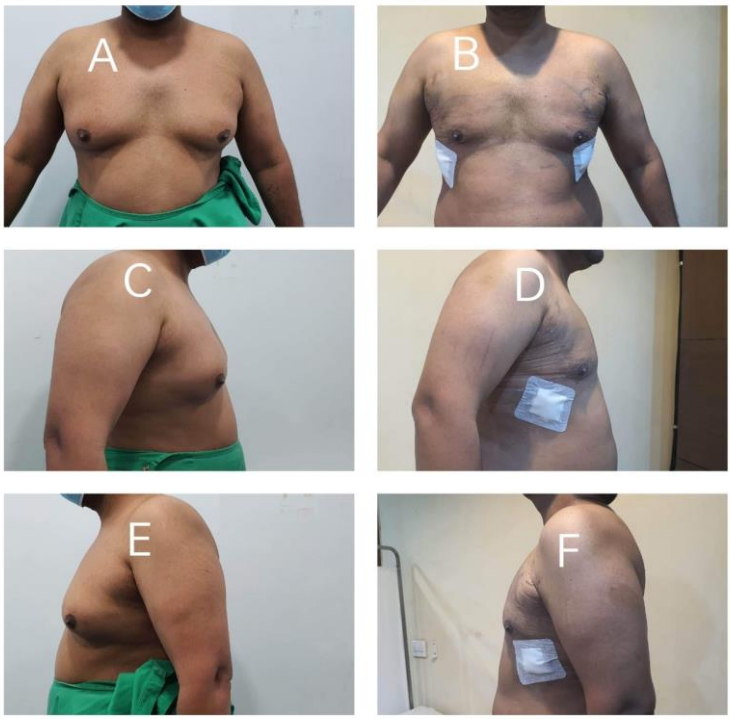

Figure 3: Showing Gynecomastia patient with preoperative (A, C, E) and postoperative images (B, D, F)

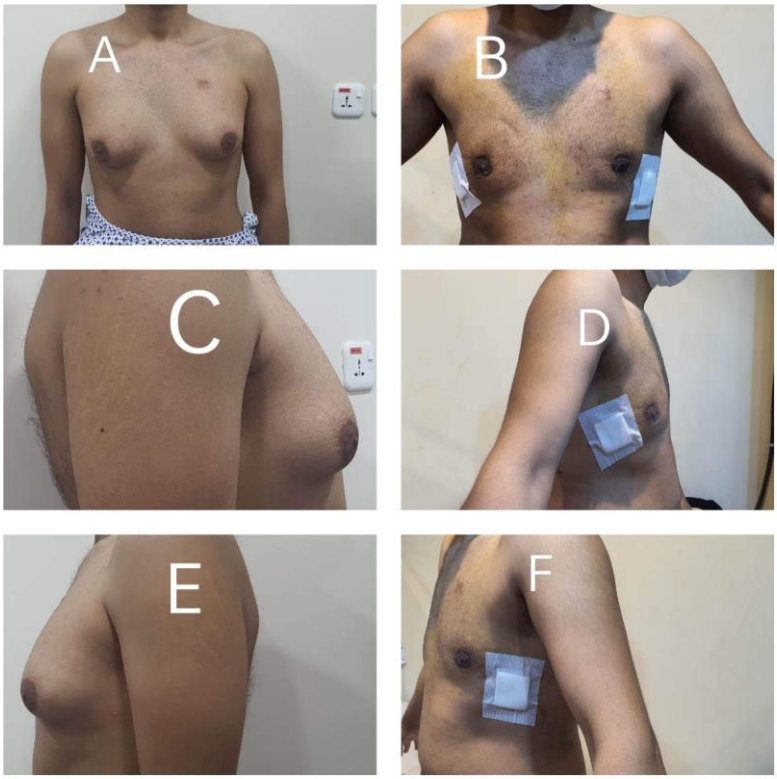

Figure 4: Showing Gynecomastia patient with preoperative (A, C, E) and postoperative images (B, D, F)

Figure 5: Showing Gynecomastia patient with preoperative (A, C, E) and postoperative images (B, D, F)

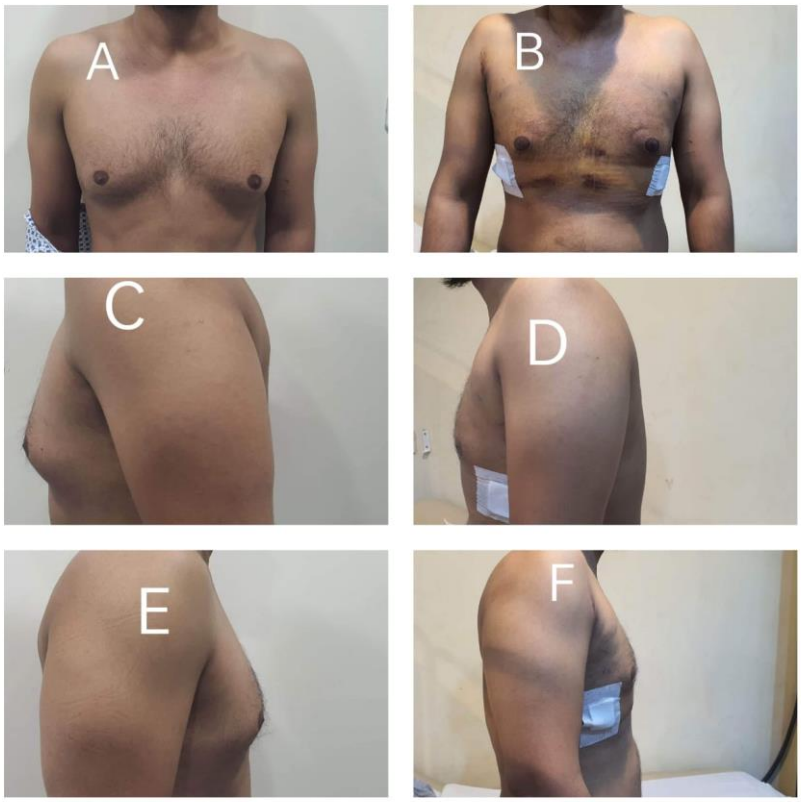

Figure 6: Showing Gynecomastia patient with preoperative (A, C, E) and postoperative images (B, D, and F)

Figure 7: Showing Gynecomastia patient with preoperative and postoperative images

Figure 8: Showing Gynecomastia patient with preoperative (A, C, E) and postoperative images (B, D, and F)

Outcome Assessment

The outcome was assessed in terms of satisfaction for these parameters: chest appearance, chest circumference, shape, flatness, symmetry, nipple-areolar complex position and scars. Overall post-operative satisfaction was evaluated by assessing these parameters and classified as inadequate, good, and excellent.

Results:

20 patients underwent conventional liposuction surgery for gynecomastia over the 4 years period. Their age ranged from 20 years to 28 years (mean: 25 years). In total 20 cases were treated with conventional liposuction (Table 2).

The mean infiltration volume per breast with suction assisted liposuction was 300 ml (range: 250-500 ml) and mean aspiration volume per breast was 350 ml (range: 300-600 ml). The mean time per breast for liposuction was 15 min (range: 10-20 min). The mean follow-up time was 1 year (range: 9-16 months) (Table 2).

There was no hematoma, seroma, infection only ecchymosis after liposuction.

Results were excellent in 14 patients, good in 3 patients, and inadequate in 3 patients. 2 cases of the group of inadequate result were due to residual sub areolar swelling and the other case was due to inadequate skin retraction (Table 3). According to this evaluation, 85% of the surgical results were found to be successful. Three patients who were found to be inadequate underwent open surgical revision.

Table 1. Grade of gynecomastia according to Rorich classification.

grade of gynecomastia	Number of breasts
Grade 1	**2**
Grade 2	**12**
Grade 3	**6**

Table 2. Criteria of gynecomastia patients with surgical procedure details

	RANGE	MEAN
Age	**20-28 y**	**25 y**
Infiltration volume	**250-500 ml**	**300 ml**
Aspiration volume	**300-600 ml**	**350 ml**
Operation time	**10-20 min**	**15 min**
Follow-up	**12 month**	**9-16 month**

Table 3. Postoperative results (Average of follow-up 1 year)

Patient satisfaction	Number of patients
Inadequate	**3**

Good	**3**
Excellent	**14**

Discussion

Gynecomastia is a frequent condition that can affect between 32%–65% of young patients. It might result from an imbalanced estrogen-to-testosterone ratio. Treatment of any underlying causes is crucial, but it may not be enough to stop breast enlargement, especially if it has existed for a while. [6]

Gynecomastia is physically and psychologically detrimental to the patient, thus surgical correction is necessary. The plastic surgeon is challenged with selecting the best surgical technique for each patient because there are numerous grading systems and surgical approaches described in the literature. [7]

Gynecomastia surgery aims to improve the aesthetics of the chest region while also protecting nipple sensitivity, minimizing skin abnormalities, and concealing the surgical scar as much as feasible. [8] There are two ways of surgical treatments available: minimally invasive techniques and surgical excision or both. [9]

Minimally invasive methods include suction assisted liposuction, power assisted liposuction, ultrasound assisted liposuction, laser assisted liposuction and endoscopic subcutaneous mastectomy. [10, 11, 12]

Because the male breast structure has more fibrous septum than the female breast tissue, suction assisted liposuction may occasionally not be sufficient alone, [13] so open surgical excision techniques using semicircular periareolar incision may be indicated with increased scar burden. [11] Skin excision depends on whether the skin is excessive or not [14]

In comparison to traditional suction assisted liposuction, ultrasound assisted liposuction and power assisted liposuction are more effective in treating gynecomastia. The main drawback of the ultrasonic approach is the potential for heat injury to the surrounding skin when it is applied to the subdermal plan to help with skin retraction.[10, 13]

In this study, we operate on 20 patients using SAL alone and on evaluating the result, 14 patients had excellent outcome, in 3 patients the result was good, and inadequate in 3 patients. 2 cases of the group of inadequate result were due to residual sub areolar swelling and the other case was due to inadequate skin retraction with 85% success rate.

In a systematic review by Fagerlund et al. [15], reported that surgical excision combined with liposuction is considered to be the most permanent outcome and the least complication rate. Abdelrahman et al. [16] reported that they achieved acceptable results in 92% of patients with Grade I and II gynecomastia after suction assisted liposuction with fat-disrupting cannulas

Çil, Yakup stated that in their case series using conventional liposuction, there was no hematoma, seroma, infection and they found that 7 patients (% 77) were very satisfied with their cosmetic outcome. Two patients were not satisfied). Therefore, these patients were re-operated with open excision method. [6]

Gökkaya et al, reported that using liposuction alone, 35 patients had excellent results, 7 patients had good results, and 3 patients had unsatisfactory results. 93.3% of the surgical outcomes in the evaluation were determined to be successful. Revision was performed on three patients whose treatment was deemed insufficient.

So we can say that patients treated with liposuction alone experienced similar success rates to those reported in the literature. Good outcomes can be obtained with the traditional wet liposuction approach by utilizing varying thickness cannulas at different planes during various stages of the procedure

Liposuction has many advantages like short hospitalization, early return to normal life, low complication rate, low cost and aesthetically acceptable results. For this reason, liposuction applied to different tissue planes with different thickness cannulas is a preferable treatment method in the treatment of patients with Grade I, II and III gynecomastia.

Conclusions:

Different approaches to treating gynecomastia are advised depending on the severity of the condition, its etiology, the quantity and make-up of the breast tissue still present, the presence of extra skin, and the position of the nipple areolar complex. Applying a standard care to every gynecomastia patient is challenging since there are so many variables influencing the choice and outcome of treatment. In our patients with Grade I, II, and III gynecomastia, the traditional wet liposuction procedure produced good reproducible outcomes, with a success rate of 85% and good patient satisfaction. Gynecomastia is treated with low complication rates and highly satisfactory results with standard liposuction techniques. We can conclude that treatment for gynecomastia with the liposuction alone produced acceptable results with minor scars, however, it should be noted that it is not suitable for all grades of gynecomastia that may need open excisional techniques.

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Conflict of Interest:

Nil

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