

Combined approach for management of gynecomastia: Subcutaneous mastectomy and liposuction

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Abstract

Introduction: There are different modalities for the treatment of gynecomastia. Open surgical techniques have become less popular with the advent of liposuction and its variants, including power-assisted and ultrasound-assisted liposuction.

Methodology: This is a descriptive study done to observe the combined approach of liposuction and subcutaneous mastectomy for the treatment of gynecomastia and to evaluate aesthetic aspects using Surgeon's evaluation score for size, shape, scarring, overall outcome and patient satisfaction score by using visual analogue scale. Inclusion criteria consist of all the patients with bilateral or unilateral gynecomastia using Simon Grade I and II., Exclusion criteria consist of patients having pseudogynecomastia, pathological and with Simon Grade III gynecomastia. Frequency analysis was done using Statistical Package for Social Sciences version 20.0.

Results: Twenty-one patients were included in the study, out of which there were 12 (57%) cases of bilateral, six (29%) cases of right and three (14%) cases of left sided gynecomastia. Mean age was 23.8 years range (14-32) years, mean body mass index 22.52 kg/m² (18-26) kg/m² mean volume of fat removal through liposuction 136.43 ml (40-300) ml, and mean resected breast tissue was 89.29 gm (40-150) gm. In our study 33.3% cases were of Simon Grade I and 66.7 % cases were of Grade II gynecomastia with one (4.7%) case had post-operative hematoma. With combined approach liposuction and subcutaneous mastectomy results showed overall excellent patient satisfaction, minimal complication, less scarring and cost effective.

Conclusions: Management of gynecomastia with subcutaneous mastectomy and liposuction can be a combined approach with less complication and overall excellent patient satisfaction.

Key words: Gynecomastia; Liposuction; Subcutaneous mastectomy.

INTRODUCTION

Gynecomastia is an abnormal enlargement of the male breast which on palpation appear to be rubbery mass. It is the most common condition of benign enlargement of the male breast (40-65%)¹. Gynecomastia is caused by an altered ratio of estrogens to androgens mediated by an increase in estrogen production, a decrease in androgen production. Other causes are drugs, cirrhosis or malnutrition, primary hypogonadism, testicular tumors, secondary hypogonadism, hyperthyroidism, chronic renal insufficiency².

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For a man, the development of feminized breasts may cause significant emotional distress and embarrassment; thus, proper treatment crucially affects quality of life and self confidence. The choice of treatment for gynecomastia is affected not only by the underlying cause, but also by symptoms and emotional distress due to appearance. When symptoms are severe or spontaneous regression does not occur, surgical intervention is required. This involves removal of glandular and fat tissue. This study was carried out in search of a safe and effective method for treatment of gynecomastia as compared to open mastectomy, in which removal of fatty, fibro glandular breast tissue with big scar and post operative chances of hematoma and seroma are frequent. Studies have shown combined method liposuction and subcutaneous mastectomy to be more effective as compare to open mastectomy for the management of gynecomastia³. The objective of the study was to assess the use of combined

methods of liposuction and subcutaneous mastectomy for the treatment of gynecomastia in a Nepalese context.

METHODOLOGY

This descriptive study was carried out in the department of Plastic Surgery, Kathmandu Medical College Teaching Hospital (KMCTH), Sinamangal, Kathmandu from May 2017 to April 2018. Institutional ethical committee approval was taken before conducting the study from institutional Review Committee -KMCTH (Ref: 8052017) with inform patient consent. Body mass index (BMI) of each individual was calculated as their weight (kg) divided by the square of their height (m²), Simon grading ⁴ for gynecomastia is given in table 1. Inclusion criteria included all the patients with bilateral or unilateral adolescents and adult with gynecomastia, Simon Grade I and II. Exclusion criteria include patients with pathological, Simon Grade III gynecomastia and pseudogynecomastia. During the one year study period, a total of 25 cases of gynecomastia presented to plastic surgery outpatient department where four cases had secondary adult gynecomastia associated with liver diseases. Every individual patient was counseled about the treatment options of combined method of liposuction and subcutaneous mastectomy versus open mastectomy for the treatment of gynecomastia. Frequency analysis was done for the entire cases recorded using Statistical Package for Social Sciences (SPSS) version 20.

SURGICAL TECHNIQUE

Under general anesthesia, either unilateral or bilateral breasts were infiltrated by tumescent technique 50ml to 100ml according to the size of gynecomastia (The infiltrate was prepared with local anesthesia (0.5 l saline + 1 mg 1/1000 adrenaline + 2% lidocaine 12.5 ml)). A small infraareolar incision was made. We performed liposuction with 5 mm and 3 mm cannulas. After liposuction glandular tissue was removed through the same incision. We preserved approximately 1 cm of glandular tissue under the areola in order to avoid inversion postoperatively. The incisions were sutured

with polydioxanone suture (PDS) sub-dermal and covered with a tightened bandage for two weeks. Patients were followed up at one week, two weeks, and three months postoperatively. Patients were encouraged to resume their regular physical exercise after two weeks. The aesthetic aspects evaluated by the plastic surgeons included (1) size, (2) shape, (3) scarring, and (4) overall outcome. They were assessed using the following grading scale: 1, poor; 2, fair; 3, good; 4, very good; and 5, excellent. Furthermore, all patients completed a satisfaction survey to assess (1) palpable lump, (2) size, (3) shape, (4) scarring, and (5) overall outcome of the surgery using a visual analogue scale of 1-5; 1 is poor, 2 is fair, 3 is good, 4 is very good, and 5 is excellent.

Table 1: Simon Grading for Gynecomastia

Grade	Description
Grade 1	Small enlargement, no skin excess
Grade 2a	Moderate enlargement, no skin excess
Grade 2b	Moderate enlargement with extra skin
Grade 3	Marked enlargement with extra skin

RESULTS

A total of 21 cases were included in this study within the duration of one year from May 2017 to April 2018, out of which there were 12 (57%) cases of bilateral, six (29%) cases of right and three (14%) cases of left sided gynecomastia (Figure 1). The mean age was 23.81 years range from 14- 32 years. Among the total, 14 (66.7%) cases were of Simon grade II gynecomastia and the remaining seven (33.3%) cases were of Simon grade I. Mean BMI 22.52 kg/m² range 18-26 kg/m². The mean liposuction fat removal was 136.43 ml range of 40- 300 ml. The pull-through method mean resection of breast tissue was 89.29 gm with range of 40-150 gm. One (4.7%) patient noted post operative hematoma which was managed with applies of pressure bandage for two weeks. Evaluation outcome for all patients with surgeon's evaluation score as well as the patient satisfaction score Visual analogue scale (VAS) is given in Table 2.

Table 2: Evaluated outcome for all patients (Mean ± standard deviation)

Category	Surgeons Evaluation score (1-5)	Category	Patient's satisfaction score *VAS(1-5)
Size	4.95 ± 0.218	Size	4.90 ± 0.301
Shape	4.90 ± 0.301	Shape	4.90 ± 0.301
Scarring	4.95 ± 0.218	Scarring	4.95 ± 0.218
Overall Outcome	4.90 ± 0.301	Overall Outcome	4.90 ± 0.301

*VAS: Visual analogue scale

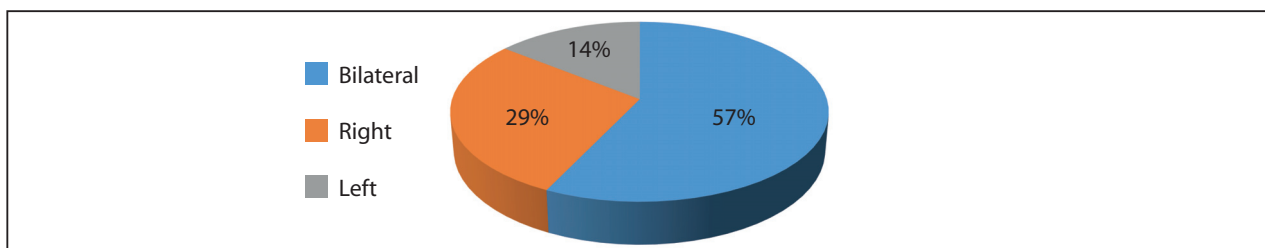


Figure 1: Frequency distribution of site for gynecomastia

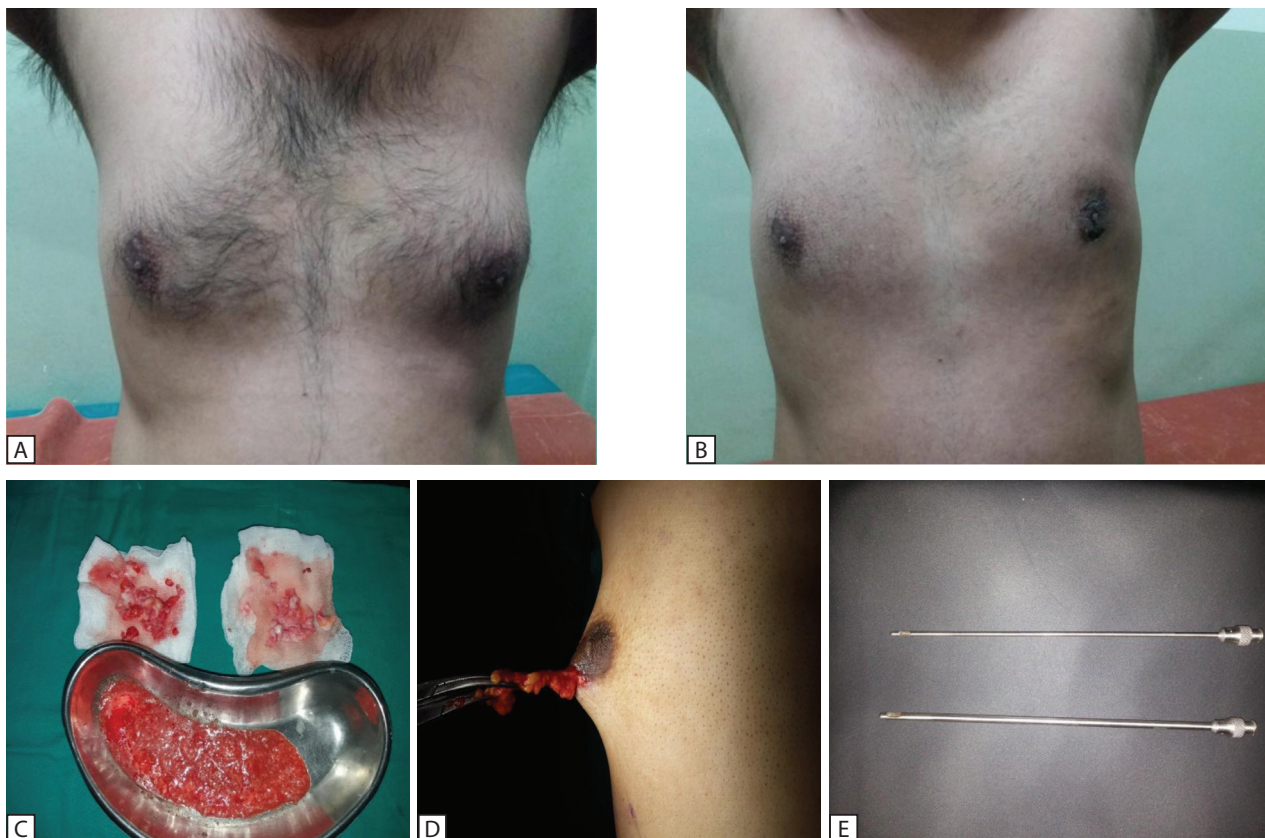


Figure 2: 32 years male with Grade II gynecomastia (A: preoperative, B: postoperative, C: specimens of fat, D: breast tissue with pull through method and E: liposuction cannula).



Figure 3: 28 years male with postoperative hematoma which resolved after apply two weeks of pressure bandage.

DISCUSSION

This descriptive cross-sectional study was done to assess the outcome by using combined method of liposuction and sub-cutaneous mastectomy for the treatment of gynecomastia Simon grade I and II. Among the various methods for treatment of gynecomastia controversy exists between the methods like liposuction, open surgery and minimal invasive procedure (e.g. sub-cutaneous mastectomy with pull-through resection of breast tissue). The present study was an attempt to find the overall outcome in patients using the combined approach of liposuction and subcutaneous mastectomy as the treatment of choice for gynaecomastia. There was total of twenty-one cases during the study period of one

year. In our study the combination approach used for the treatment of gynecomastia was found to provide excellent patient outcome and satisfaction similar to the study done by Schroder et. al.³ in Germany.

The surgical treatment depends on the grading of gynecomastia with presence of fat tissue. When there is more breast tissue involvement the choice of liposuction may not be feasible hence resection with pull-through approach using a periareolar incision is found to be more favorable⁵. In a study done by Kim et. al.⁶ in South Korea when liposuction and combination of liposuction and subcutaneous mastectomy were compared, the combination approach had better results with overall patient and surgeons satisfaction, which was similar to our study.

Recent treatment modalities have been found these days, the combination of liposuction and cartilage shaver wherein the postoperative scar is minimal. The combination approach of liposuction and periareolar pull through resection of breast tissue also has been found showing scar of less than 10 mm making it easier to hide a scar. Hence use of the combined approach of liposuction and subcutaneous mastectomy in

gynaecomastia is found to be a very effective treatment in terms of less scar formation, less complication like haematoma or seroma, cost effectiveness and overall patient satisfaction.

The cases in this study are from a single institution so it may have some limitations. Hence a larger sample size for longer duration may overcome this limitation. The patients were regularly on follow-up postoperatively on 7th, 15th day and three months. The patients were in contact through telephone with no complaints till date.

CONCLUSIONS

Subcutaneous Mastectomy and Liposuction can be useful as a combined approach for the management of gynecomastia. The treatment method is minimally invasive with less complication, less scarring and excellent patient satisfaction.

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