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Original Research

Surgical Management of Gynecomastia: Our experience and comparing surgical outcome

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ABSTRACT

Introduction : Gynecomastia is defined as the benign enlargement of glandular tissue of male breast. One of the most common breast problem in men is gynecomastia. Prevalence of asymptomatic gynecomastia differs with different age group. Clinical classification of gynecomastia are Idiopathic, Physiologic, Pharmacologic and pathologic. Gynecomastia can also be associated with psychological stress. There are various form of treatment available for gynecomastia, but surgery is considered gold standard among all the treatment available today. **Methods:** In this retrospective study, we assessed patients who underwent gynecomastia surgery either subcutaneous mastectomy or liposuction or combined (Liposuction with gland excision) between January 2017 to December 2017 at Nepal Plastic Cosmetic and Laser Center, grade I gynecomastia. 84 patients were operated either by liposuction alone, mastectomy alone or combined (liposuction with gland excision) technique. **Results:** Total of 84 patients with mean age of 24.8 years were included in this study. Most of the patients in this study group had emotional and social problem which also was the most common reason to choose operation among patients. Overall complication rate in this study was 9.5%. Complication was most commonly seen in the patients who underwent mastectomy. Overall satisfaction rate was 88%, with highest reported by patients in liposuction group. **Conclusion:** Each cases of gynecomastia should be considered and managed with individual approach considering patients desire, grade of gynecomastia and comorbidity. This study shows that liposuction only, provides high satisfaction rate among patients and surgeon. Proper planning and meticulously performed surgery can reduce complications to great extent.

Key words: Gynaecomastia, Liposuction, mastectomy

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INTRODUCTION

Gynecomastia or commonly called male breast is defined as the benign enlargement of male breast glandular tissue. Gynaecomastia must be differentiated from Pseudogynecomastia, which is defined as excessive development of the male breast from subareolar fat deposition but without glandular proliferation. Gynecomastia is one of the most common breast problem in men. The prevalence of asymptomatic gynecomastia in neonates is 60% to 90%, in adolescents is 50% to 60% and in men aged from 50 years to 69 years is unto 70% (1-3). Most commonly gynecomastia are bilateral. Pathophysiological research suggest that gynecomastia is caused by an imbalance between the stimulatory effect of estrogen and the inhibitory effect of androgen at the breast tissue level. Clinical classification of gynecomastia are Idiopathic, Physiologic, Pharmacologic and pathologic. Study shows that maximum number of cases of gynecomastia are physiological thus does not require other forms of treatment except reassurance (4). Gynaecomastia which are persistent for the duration of more than two years are unlikely to regress spontaneously or with other form of medical treatment as the tissue becomes irreversibly fibrotic (5). Various treatment options for persistent gynaecomastia are pharmaceutical therapy, ultra sound assisted lipectomy and surgery. As benefits from pharmaceutical therapies are debatable, surgical treatment is considered gold standard treatment for primary idiopathic gynaecomastia (6).

Gynaecomastia if left untreated, especially among adolescents, are often associated with psychological stress like anxiety, social phobia and depression. It is also suggested that psychological evaluation should be conducted as gynecomastia patients might carry psychological treat to normal self-esteem and sexual identity (7).

There is no single study from Nepal regarding the treatment of gynecomastia and its outcome. This study aims to present the surgical management of gynecomastia among Nepalese patient and compare liposuction, subcutaneous

mastectomy and combined procedure (liposuction + gland excision).

METHODS

In this retrospective study, we assessed patients who underwent gynecomastia surgery either liposuction, subcutaneous mastectomy or combined procedure between January 2017 to December 2017 at Plastic Cosmetic and Laser Center, Nepal.

All the patients who came to our clinic complaining enlarged breast were first physically examined. Then thorough history taking was done and hormonal screening was also done to all the patients for ruling out pharmacological, physiological and pathological causes. Patients with pharmacological and pathological causes were excluded from this study. Diagnosis was made based on observation and palpation of breast. Rubbery or firm mound of tissue can be palpated under the nipple-areolar complex(NAC).All the cases were graded as per Simon's classification(8): grade I, minor breast enlargement without skin redundancy; grade IIa, moderate breast enlargement without skin redundancy, grade II b, moderate breast enlargement with minor skin redundancy; grade III, severe breast enlargement with skin redundancy simulating a female breast.

Patient's demographics, grade of gynecomastia, type of anesthesia, operative time, patients satisfaction and complications were recorded. Patients were followed for up to 180 days. All the data were analyzed by the authors.

Preoperative preparation

All the patients were explained about the procedure and possible complication at first doctor's visit and at the day of operation. After explaining the operative procedure, choice was given to patient whether to perform liposuction or mastectomy or combined procedure. Signed informed consent was obtained from all the patients. Inframammary fold, breast boundary and planned incision sites were marked in standing position. Single-shot prophylaxis antibiotic (Cefazolin 1gm.) was administered routinely.

Surgical Technique

Liposuction Technique

Patient was positioned on supine position with bilateral upper limb abduction on the operating table. Patient, Surgeons, anaesthetist and nurses undergo WHO safety checklists before administrating anesthesia. All mastectomy procedures were performed under general anesthesia and liposuction procedure done under Tumescent solution.

The stab incision of 2-3 mm was made in medial / lateral areolar line. Bilateral breast were infiltrated with tumescent solution (500 ml of Normal Saline + 20 ml of 2% lignocaine+ 10ml 7.5% sodium bicarbonate + 1ml of 1:1000 adrenaline + Gentamycin 80mg). Pretunneling was done before the liposuction was carried out. Then, liposuction was done along the preoperatively marked area using 3mm blunt liposuction cannula. The same procedure was carried out in another breast. Gland was excised with pull through technique. The amount of fat removed was noted. The stab incision was closed with 5.0 prolene.

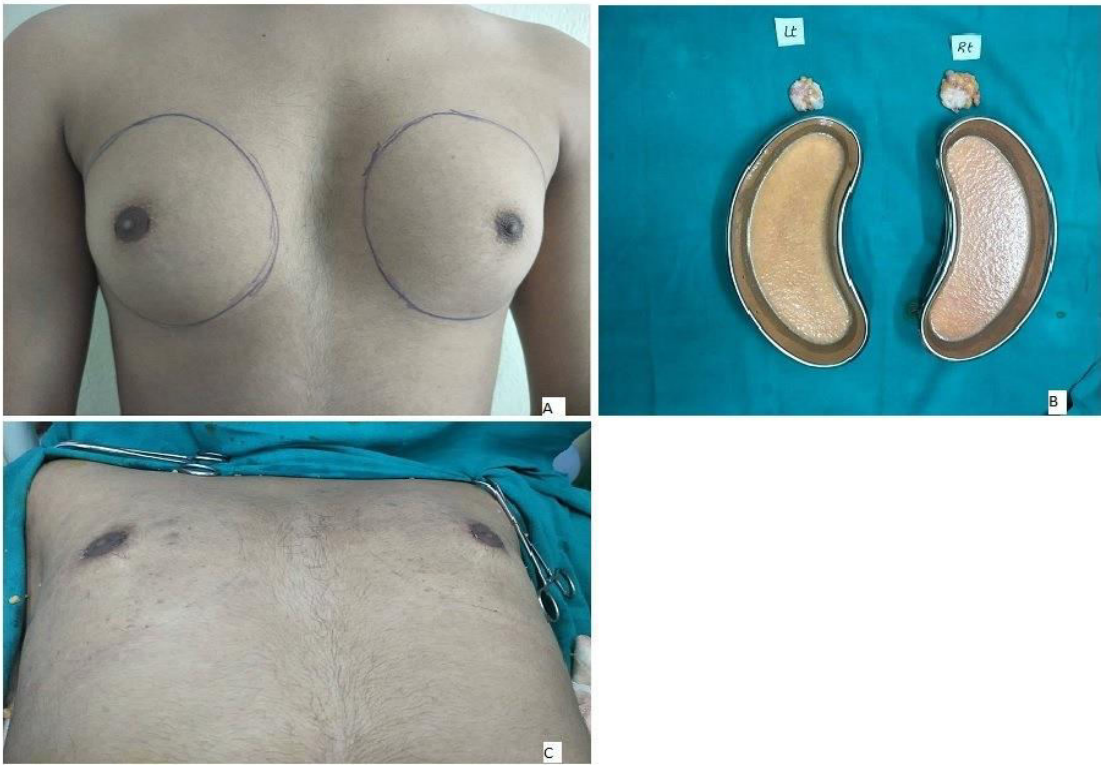

Figure 1: 21 years old Patient who underwent combined procedure (liposuction + gland excision). A:Pre-operative , B: Liposuction and glandular tissue removed, C:Immediate post-operative view

Mastectomy

A semi circular incision was made on inferior aspect of the nipple-areolar complex (NAC). In patients with combined procedure requiring glandular excision, the stab incision was extended about 2-3cm on each side into the periareolar incision. Using diathermy, dissection was done inferiorly to the border of the breast, then from the deep plane to the upper limit of the breast. Dissection was continued superiorly to the incision leaving a 1-1.5cm disc of breast tissue on the undersurface of areola to prevent sunken aerola and preserve nipple sensation and vascularity. After meticulous hemostasis, negative drain number 16 was inserted and secured with 3.0 silk through incision in each breast . Wound was closed in two layers with 5.0 vicryl and 6.0 prolene and ointment Neosporin (neomycin, bacitracin, and polymyxin) was applied over the wound. Compression dressing was applied postoperatively.

All the patients who underwent only liposuction were discharged in the day of operation and other patients were discharged on third post-operative day. Dressing change was done on first post-operative day and drains were removed once the volume was less than 15 ml/day. Compressive dressing was applied for 10 days followed by compressing garments for 6 weeks. Patients were encouraged to resume their regular work after 2 weeks. All the patients were followed-up upto 180 days.

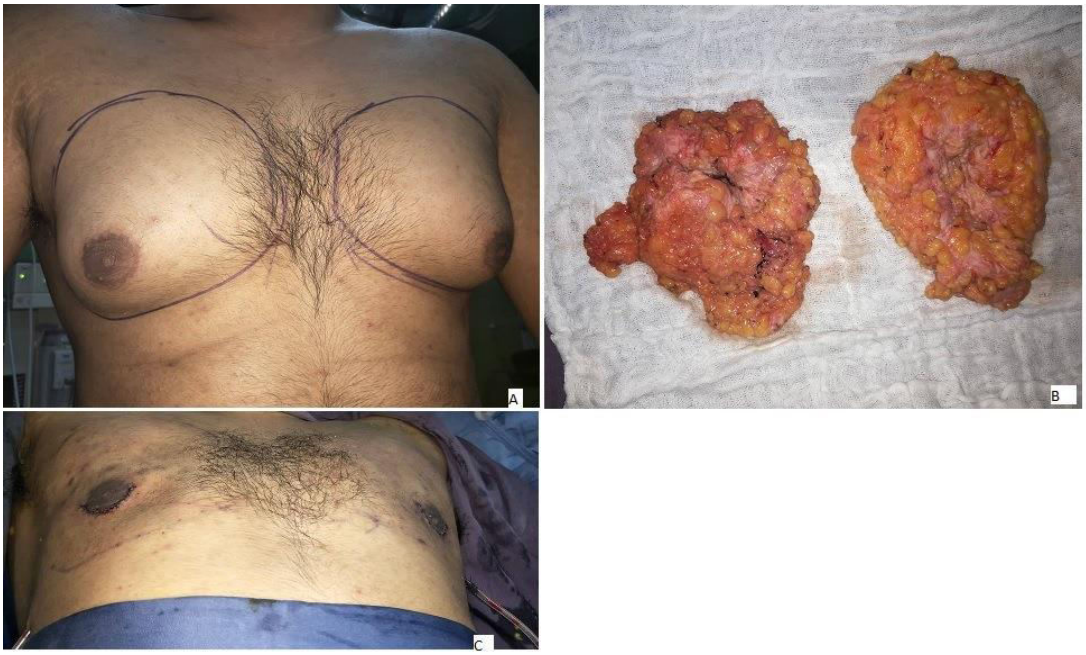

Figure 2: 27 years old Patient who underwent mastectomy only. A:Pre-operative , B: Fat and glandular tissue removed, C:Immediate post-operative view

RESULTS

Total 84 patients who were operated for gynecomastia between January 2017 and December 2017.All the cases were bilateral gynecomastia (total breast=168).We operated in the patient ranging from 18 years to 34 years old. The mean patient age was 24.8 years.

Preoperative grading according to Simon classification were grade I (n=42), grade IIa (n=30),grade II b (n=9) and grade III (n=3). 77 patients (91.6%) told emotional problem as main reason to undergo treatment, whereas 7 patients (8.4%) complained of pain and discomfort in chest. All the cases of gynecomastia were idiopathic in this study without any comorbidity. Out of 84 patients, 34 were treated with liposuction, 42 were treated with mastectomy and 8 received combined procedure (liposuction + gland excision). Patients received operations based on Simons grading as shown in Table 1.

Table 1: Surgery by grading

Surgery	Grade I	Grade IIa	Grade IIb	Grade III
Liposuction	n=22	n=12	-	-

Mastectomy	n=20	n=11	n=8	n=3
Combined (liposuction with gland excision)	-	n=7	n=1	-

Average operation time was 90 minutes, 175 minutes and 115 minutes in liposuction, mastectomy and combined methods respectively.

The complications involved hematoma (n=2), seroma (n=4) and retracted scar (n=2). Overall complication rate in this study was 9.5% (8/84). The cases of hematoma was managed by immediate evacuation, seroma was managed conservatively with aspiration and poor scarring was managed after 3 months with scar revision surgery.

Complications rate varies by group. The following table shows the complication by groups.

Table 2: Complications by different methods

Complications	Liposuction	Mastectomy	Combined
Seroma	Nil	4	Nil
Hematoma	Nil	2	Nil
Retracted Scar	Nil	1	1

There was no complication in liposuction method, 7(16.6%) complications in mastectomy method and 1(12.5%) complications in combined method. Patient satisfaction rate was 93.7% (30/32) in liposuction ,88% (37/42) in mastectomy and 87.5% (7/8) in combined method. Overall satisfaction rate among patients was 88%.

DISCUSSION

Gynecomastia is most common breast problem among men. Although most cases of gynecomastia do not require treatment but persistent cases of gynecomastia is associated with low self esteem, embarrassment and psychological issues among patients. Adolescents are mostly affected by the psychological issue. Therefore all cases of gynecomastia should be consulted with doctors and doctors should be able to reassure their patients or suggest treatment as per case demands. Before any intervention is carried out pathological causes of gynaecomastia must be ruled out. Earlier publications used to focus on surgical excision of glandular tissue of breast, but more recent publications insist that liposuction alone or liposuction with combination of mastectomy gives better aesthetic results as well as less complications (9-10).

This study presents 84 cases of gynecomastia patients who were treated with liposuction, mastectomy or combined method. All the cases of gynecomastia were bilateral in this study. Other studies also demonstrate that most cases of gynecomastia are bilateral (11, 12). Emotional problem was the most common reason to sought for treatment in this study. Ridha et al. also make similar conclusion in their study (13).Surgery immediately improves patients aesthetic outlook and satisfaction rate is generally high among these group of patients. Overall patients satisfaction rate in this study was 88%, which is almost similar to study by Song et al.(14).In contrast to this study, Ridha et al. reported very low satisfaction rate among patients in their study (13).

This study demonstrate overall complication rate of 9.5%, which is higher than complications presented in other study (15). Various other studies presents complications rate higher than this study (5, 16, 17). In this study, complication rate was higher in mastectomy method, which might be caused due to long surgical time and more tissue injury which create a cavity and dead space. Conventional liposuction combined with open excision was first described for treatment of gynaecomastia by Teimourian and Perlman in 1983(18), and has become a widely accepted method, because of the difficulty of removing breast parenchyma by suction alone. Study by Arvind et al. shows complications rate among the mastectomy method was higher compared to two other method (17).Patients in liposuction group report no complication in this study. Infiltration of tumescent solution and short surgical time might be contributing factors. There was no case of infection in this study. We meticulously maintained the sterility and routinely prescribe prophylaxis antibiotic in all cases. Very few patients in this study choose combined procedure compared to liposuction or mastectomy. There might be 2 reasons for this, first is the financial reason and second is that patient might think they have to undergo two difference procedures which may carry more risk.

Surgical management of Gynecomastia is associated with significant possible complications but proper planning and meticulously performed surgery can reduce complications to great extent. In this study, patients who were afraid of relapse and had anxiety of cancer chose for mastectomy with or without liposuction and patients more focused on aesthetic results chose for liposuction. This study shows that liposuction method have less scar, no complication and high satisfaction rate. There is no single surgical procedure which fits all the patients. We believe each cases of gynecomastia should be individually assessed and managed according to patients desire, grade of gynecomastia and patients comorbidity.

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