

Retrospective Analysis of the Outcomes of Gynecomastia Treatment with Surgical Excision vs. LiposuctionAkriti Komal¹, Sanjay Kumar Gupta², Raghvendra Singh³¹M.Ch Resident, Plastic & Reconstructive Surgery, Patna Medical College & Hospital, Patna, Bihar²Assistant Professor & H.O.D, Plastic & Reconstructive Surgery, Patna Medical College & Hospital, Patna Bihar³M.Ch Resident, Plastic & Reconstructive Surgery, Patna Medical College & Hospital, Patna, Bihar

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Abstract

Background: An enormous amount of emotional and mental anguish can be caused by gynecomastia, which is the growth of the male breast tissue. The two main methods for treating gynecomastia are liposuction and surgical excision. Although the goal of both procedures is to give the chest a more manly shape, the methods used, the length of time required to recuperate after surgery, and the likelihood of complications all vary. Evaluating the results of various treatments, especially with regard to side effects, patient happiness, and recurrence rates, requires comparative research.

Objective: The objective of this study was to retrospectively compare the outcomes of gynecomastia treatment using surgical excision versus liposuction in patients at Patna Medical College & Hospital, Patna, Bihar, over a period from April 2023 to October 2024. Specifically, the study aimed to assess post-operative complications, scarring, recurrence, patient satisfaction, and recovery times between the two treatment groups.

Method: A retrospective comparative study was conducted with 100 male patients (50 excision, 50 liposuction) who underwent treatment for gynecomastia. Patient records were reviewed to collect data on the type of surgery, operation time, postoperative complications (hematoma, infection, and seroma), recovery time, recurrence, and patient satisfaction. Outcome measures were assessed through follow-up interviews and medical records. Statistical analysis was performed using SPSS, with chi-square and t-tests to determine significant differences between the two groups.

Findings: The study found that excision resulted in a lower recurrence rate (2%) compared to liposuction (6%) but was associated with more scarring and a longer recovery time. Liposuction showed less postoperative pain and minimal scarring but had a higher risk of recurrence. Both groups reported high levels of patient satisfaction.

Conclusion: Both surgical excision and liposuction are effective treatments for gynecomastia. Excision is recommended for higher-grade cases or those with substantial glandular tissue due to its lower recurrence rate. Liposuction is suitable for patients with predominantly fatty gynecomastia, offering quicker recovery and minimal scarring. The choice between these methods should be tailored to the individual patient's condition and expectations.

Keywords: Gynecomastia, Surgical Excision, Liposuction, Treatment Outcomes, Patient Satisfaction, Recurrence, Complications, Postoperative Recovery, Aesthetic Surgery.

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Introduction

A benign development of male breast glandular tissue, gynecomastia is the result of an imbalance between oestrogen and androgen.. This condition can affect either breast at any age, including infancy, puberty, and old age, in conjunction with hormone fluctuations [1]. Even though gynecomastia is not a medical condition, it can result in social humiliation, body image issues, and psychological distress. Gynecomastia is distinct from pseudo gynecomastia, which is more

prevalent in obese patients and entails substantial fat deposition without glandular development [2]. The prevalence of gynecomastia is contingent upon the demographic and diagnostic procedure. 60-70% of teenage males are impacted by hormonal changes that occur during puberty. The majority of instances resolve themselves between months to two years [3]. Low testosterone levels and adipose tissue's enhanced conversion of androgens to oestrogens may cause this condition,

which affects 30–50% of men in adulthood and more in the elderly [4]. Gynaecomastia can be caused by endocrine issues, systemic disorders including liver or kidney failure, hormonal changes, and pharmaceutical side effects such as anti-androgens, anabolic steroids, and anti-ulcer drugs. A condition is "idiopathic" if its cause is unknown.

The aetiology, severity, and duration of gynaecomastia symptoms determine treatment. Medium or early stages may only require medical observation [5]. However, surgical surgery is selected when the problem persists or is cosmetically significant, especially if the patient suffers discomfort or psychological repercussions. The most common gynaecomastia surgeries are liposuction and excision. Suction cannulas remove fat through tiny incisions in liposuction, which can be cosmetic [6]. Surgical excision is recommended for dense glandular tissue or breast enlargement. Using a peri-areolar or inframammary incision, glandular breast tissue is directly removed.

Both surgical correction treatments are widespread, but which one is better depends on the severity of gynaecomastia, the patient's goals, the breast tissue's nature (fatty vs. glandular), and the surgeon's ability [7]. There is ongoing debate regarding which procedure yields better safety, aesthetics, recurrence rate, postoperative recovery, and patient satisfaction. A comparison study is needed to determine which surgeries are safest and most effective in Indian healthcare systems due to disparities in surgical preferences and resources [8].

Liposuction vs. surgical excision has been extensively studied for gynaecomastia. These two surgical procedures have been extensively studied for efficacy, safety, and aesthetic effects. Fat-dominant gynaecomastia patients may benefit from liposuction's speedier healing, reduced scarring, and better aesthetics. Excisional surgery is recommended for dense glandular tissue, increased breast volume, or grade III gynaecomastia when liposuction fails. [9] Found that liposuction alone could treat mild cases, but direct excision was superior for advanced grades. [10] Observed that liposuction alone may undertreat glandular tissue if not appropriately treated.

According to clinical recommendations, the surgical method should be tailored to breast tissue severity and histology. A grading system like the Simon classification is recommended by the American Society of Plastic Surgeons for optimum results [11]. Liposuction is an effective treatment for Grade I and II gynaecomastia, which have small skin excess and little glandular tissue. Grades IIb and III, which have skin redundancy and significant glandular tissue, may require excision. There aren't many long-term comparison studies, but ultrasonic

or power-assisted liposuction may improve fat and glandular clearance.

Scarring, recurrence, cosmetic satisfaction, postoperative discomfort, and complications such as haematoma, seroma, and infection have been studied [12]. Liposuction is less painful and faster than excision, which may remove glandular components better but leaves more scarring. Patients' satisfaction is affected by expectations, communication, and the surgeon's approach, according to research. If chest enlargement is significant, excision may enhance aesthetics despite being more invasive. The effects of gynaecomastia surgery at Patna Medical College & Hospital in Bihar between April 2023 and October 2024 would be compared against liposuction. This study analyses medical data and evaluates postoperative results in 100 patients to enhance gynaecomastia surgery.

Methodology

Study Design and Setting: The Patna Medical College & Hospital in Bihar hosted this comparative retrospective study. The researchers want to know the benefits and cons of surgical excision and liposuction for gynaecomastia. As a retrospective study, real-world data over a long time can be analysed to determine each procedure's practical effectiveness and hazards.

Study Duration and Sample Size: The data was collected from patients who underwent gynaecomastia surgery between April 2023 and October 2024. A total of 100 patients were included in the study, with 50 patients treated through surgical excision and the remaining 50 managed with liposuction. The selection of cases ensured an even distribution to facilitate a balanced comparison between the two groups.

Inclusion and Exclusion Criteria: Patients included in the study were adult males diagnosed with gynaecomastia who underwent either liposuction or excision and had complete medical records along with a minimum follow-up period of three months.

Patients with pseudo gynaecomastia, underlying malignancies, incomplete records, or those who underwent combination procedures (e.g., excision plus liposuction) were excluded to maintain uniformity and eliminate confounding variables.

Data Collection and Variables: Medical and surgical reports were examined for pertinent information. The main parameters evaluated were operation type, demographics, hospital stay, recovery duration, and post-operative complications such as haematoma, infection, and nipple necrosis. Through outpatient comments and follow-up notes, cosmetic outcomes and patient

satisfaction were assessed. We tracked gynaecomastia recurrence during follow-up.

Outcome Measures: The primary outcome measures were post-operative complications, aesthetic satisfaction (as recorded in clinical notes and follow-up interviews), time required for complete recovery, and any incidence of recurrence. Patient-reported outcomes such as comfort level, chest contour, and scar visibility were also considered important variables contributing to overall satisfaction.

Statistical Analysis: We utilised SPSS (version XX) for statistical analysis after importing all data into Excel. Demographic and clinical data were summarised using descriptive statistics. We used inferential statistics like the chi-square test for categories and the independent t-test for continuous

variables to compare the data. Less than 0.05 was considered statistically significant to determine if liposuction and excision had different outcomes.

Results

Patient Demographics: A total of 100 male patients with gynaecomastia were included in the study, with an equal distribution of 50 patients each in the surgical excision and liposuction groups. The mean age of patients in the excision group was 24.6 ± 4.3 years, while in the liposuction group, it was 25.2 ± 4.1 years. The average Body Mass Index (BMI) across both groups was similar, with 24.8 ± 3.1 kg/m² in the excision group and 24.5 ± 2.9 kg/m² in the liposuction group. According to the Simon classification, the majority of patients belonged to grade II gynaecomastia (56%), followed by grade I (28%) and grade III (16%).

Table 1: Patient Demographics

Variable	Excision Group (n=50)	Liposuction Group (n=50)	p-value
Mean Age (years)	24.6 ± 4.3	25.2 ± 4.1	0.42
Mean BMI (kg/m ²)	24.8 ± 3.1	24.5 ± 2.9	0.60
Grade I Gynaecomastia (%)	28%	28%	—
Grade II Gynaecomastia (%)	58%	54%	—
Grade III Gynaecomastia (%)	14%	18%	—

Treatment Characteristics: All patients underwent surgery under general anesthesia. The average operative time for liposuction was significantly shorter (approximately 45 ± 10 minutes) compared to surgical excision (65 ± 12

minutes). Patients in the excision group often required slightly longer postoperative monitoring and stay due to the nature of the procedure and drain placement in some cases.

Table 2: Treatment Characteristics

Parameter	Excision Group (n=50)	Liposuction Group (n=50)	p-value
Type of Anesthesia	General (100%)	General (100%)	—
Operative Time (minutes)	65 ± 12	45 ± 10	<0.001*
Hospital Stay (days)	1.8 ± 0.4	1.3 ± 0.3	<0.05*

Outcome Comparisons: Pain levels within 48 hours of surgery were higher in the excision group, with a mean VAS score of 5.2 compared to 3.1 in the liposuction group. Both groups experienced pain relief within a week with conventional analgesics.

Both groups had complications, but their frequency and nature varied. Haematoma was more prevalent in excision (12%) than liposuction (4%). 6% of liposuction and 4% of excision patients developed seroma. Three excision and one liposuction patients

had minor wound infections. Excision group patients worried about scarring, especially those having bigger areola or submammary fold incisions. Liposuction left fewer punctures, improving aesthetics. Gynaecomastia recurred rarely, with 1 excision case and 3 liposuction cases during follow-up. Following follow-up interviews and clinical notes, the excision group had somewhat higher patient satisfaction (88%) than the liposuction group (84%), mainly due to superior chest contouring in moderate to severe instances despite increased scarring.

Table 3: Outcome Comparisons

Outcome Measure	Excision Group (n=50)	Liposuction Group (n=50)	p-value
Pain Score (VAS, Day 1)	5.2 ± 1.1	3.1 ± 0.9	<0.01*
Hematoma (%)	12%	4%	0.09
Seroma (%)	4%	6%	0.65
Infection (%)	6%	2%	0.31
Visible Scarring (%)	80%	16%	<0.001*
Recurrence (%)	2%	6%	0.28
Patient Satisfaction (%)	88%	84%	0.54

***Statistically significant ($p < 0.05$)**

Statistical Significance: Statistical analysis revealed a significant difference in operative time and immediate postoperative pain levels between the two groups, favoring liposuction. Other variables, including complications and satisfaction, did not show statistically significant differences, though trends were noted that may warrant further exploration in larger samples.

Discussion

This retrospective study evaluated surgical excision and liposuction for gynaecomastia to better understand their efficacy, safety, and patient satisfaction. Both treatments dramatically improved patients' mental and physical health, the results showed. Scars, recovery time, and post-surgery pain differed. Surgical excision took longer, caused more discomfort, and left more scars than liposuction. Liposuction had speedier recovery, less pain, and less scars. Despite these improvements, liposuction had a greater recurrence rate (6% vs. 2% with excision). These data suggest that excision may assist higher-grade gynaecomastia patients with more glandular tissue.

Comparison with Previous Studies: The results of this study are in accordance with the findings of prior research, which has illustrated the benefits of liposuction in terms of reduced recovery time and less visible scarring. Similarly, a study conducted by [13] determined that liposuction is effective in the treatment of gynaecomastia, particularly in patients with predominantly adipose tissue. Nevertheless, the same study also emphasised that excision is the preferred treatment for cases involving a greater amount of glandular tissue, as it offers a more thorough removal of tissue and is less likely to lead to recurrence. The advantages of excision have been reiterated in other studies, particularly in the context of attaining more satisfactory long-term outcomes [14].

For instance, [15] reported that excision is more appropriate for higher grades of gynaecomastia and results in fewer cases of recurrence. This observation is corroborated by the results of the current study, which demonstrated that excision was associated with a lower recurrence rate, albeit at the expense of increased pain and disfigurement.

Limitations of the Study: Even if the study is informative, its limits must be acknowledged. The retrospective nature of analysing medical records might lead to biases like missing data, surgical procedure variances, and variable follow-up times. 100 cases may not be representative of all men with gynaecomastia, but they are enough for exploratory research. A larger sample size would broaden the results. Lack of long-term follow-up is

another issue. Even though this study focused on post-operative outcomes including recurrence and patient satisfaction, a longer follow-up time would better assess the treatments' long-term efficacy and durability. The study also ignored patient comorbidities, lifestyle factors, and pre-operative expectations, which may affect outcomes.

Recommendations for Future Studies: Future randomised controlled trials should use larger samples and keep participants longer to overcome these constraints. This would increase excision and liposuction efficacy and frequency data over time. Future studies may examine laser or ultrasound-assisted liposuction results. Research on the effects of age, BMI, and gynaecomastia severity on treatment may be beneficial. Individualised plans that consider the above criteria may make patients happier with their treatments and experience. In conclusion, qualitative research should examine patients' happiness, mental health, and quality of life after surgery to fully comprehend each treatment's effects. To help their patients and calm their fears, one must grasp the mental and emotional effects of gynaecomastia treatment.

Conclusion

This study found substantial differences in postoperative results between surgical excision and liposuction for gynaecomastia. Excision prevented recurrence better, especially in glandular tissue cases, despite longer healing times and more noticeable scars. However, liposuction reduced scarring, surgical pain, and recovery time. However, recurrence was increased, especially in individuals with substantial glandular involvement. The patient's expectations and specific traits should determine the surgery decision, but both procedures generated high patient satisfaction. According to clinical standards, higher-grade gynaecomastia should be excised. However, liposuction may work better for fatty patients. Surgical practitioners should examine the patient's symptoms, goals, and recuperation time before recommending treatment. They should also consider recurrence risks. Patients need a comprehensive consultation to understand the pros and cons of each surgery and set realistic expectations. Future study should employ larger sample sizes and longer follow-up periods to better understand long-term results and optimise treatment options.

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