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Original Research Article

Level of patient satisfaction after subcutaneous mastectomy in gynecomastia

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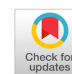

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ABSTRACT

Objectives: The objective of our study was to assess satisfaction in patients undergoing subcutaneous mastectomy for gynecomastia.
Materials and Methods: A retrospective analysis of patients undergoing subcutaneous mastectomy without additional liposuction, from July 2016 to February 2020 in a tertiary care centre in south India, was conducted. They were approached over phone with a questionnaire; their response was recorded and mean value of each variable (total 10 variables) was tabulated against grade of gynecomastia and age interval. The sum of the mean values was taken as patient satisfaction score (PSS) and was grouped into very good satisfaction (15-20), good satisfaction (10-15), average satisfaction (5-10) and poor satisfaction (0-5); for each grade and in each age interval.
Results: The patients with grade 1 and 2A gynecomastia showed very good satisfaction after Subcutaneous Mastectomy, with average score of 18.71 and 17.28 respectively; where as those with grade 2B showed good satisfaction, with average score 13.
Conclusions: Very Good patient satisfaction and surgical outcome can be obtained after subcutaneous mastectomy in grade 1 and grade 2A gynecomastia which improved body image and thereby quality of life.

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1. Introduction

Gynecomastia is enlargement of male breast characterized by ductal, periductal connective tissue and fatty tissue proliferation in various proportions. It is mainly seen during infancy, adolescence and old age due to hormonal influence. An imbalance between estrogens that stimulate breast tissue and androgens that counteract these effects is thought to be the main aetiology of gynecomastia.[1] The common cause of gynecomastia is idiopathic. Obesity, physiological, endocrine, testicular or adrenal neoplasms, systemic diseases and drugs like alcohol, spironolactone, calcium channel blockers that causes an increase in the circulating estrogens are the other causes of gynecomastia.

It may be unilateral or bilateral and present as a button like subareolar enlargement. In higher grades it can simulate a female breast with ptosis. In histological examination, the terminal ducts (without lobule formation) are lined by a multilayered epithelium with small papillary tufts and surrounded by periductal hyalinization and fibrosis.[1] Three types of gynecomastia such as florid, fibrous and intermediate have been described. The florid type is characterized by an increase in ductal tissue, vascularity and variable amount of fat; and is usually seen when the duration is 4 months or less. The fibrous type is usually present after 1 year and is characterized by more stromal fibrosis and few ducts. The intermediate type is a mixture of the two and usually presents between 4 months and 1 year.[2,3]

Once the underlying cause has been evaluated and addressed, surgical management may still be required for

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correction and better psychosocial functioning.[4,5] Young men and boys in their late adolescence with gynecomastia experienced problems with self-esteem, eating disorders, social withdrawal, body image disturbances, depression, anxiety and lessened quality of life.[6] Males who experience gynecomastia as a serious condition used to curtail their social activities. In a retrospective study conducted in adolescent males treated surgically more than half of them were obese.[7] Another study showed that disordered eating behavior was higher in adolescent males with gynecomastia than healthy controls.[5] Yet another study showed that the participants those who had denied surgical treatment were diagnosed with adjustment disorders.[8] The quality of life in both physical and emotional domains can be enhanced following surgical correction.

In our Department, the major share of the work goes to trauma reconstruction, malignancy and burns. We do have a lot of constraints in carrying out aesthetic work along with emergency procedures. Most of the time we could not offer them liposuction along with subcutaneous mastectomy due to the time limit and difficulty in prolonging anaesthesia, which will affect other cases of the day. Our study is a humble endeavor aimed at assessing the patient satisfaction after subcutaneous mastectomy, which is considered as the procedure of choice for grade 1 and 2A gynecomastia.[9]

2. Materials and Methods

The details of patients who underwent Subcutaneous Mastectomy alone for Gynecomastia from July 2016 to February 2020 were collected from the hospital records. All the patients had undergone Subcutaneous Mastectomy (excision of glandular and fibro-fatty tissue without skin excision) through a periareolar incision under General Anaesthesia after initial endocrinology and preoperative evaluation. Of these, 17 patients had responded; approached them over phone with a questionnaire which was developed in our Department and validated for assessing patient satisfaction. The Questionnaire contained 10 questions with three scores/points namely 0, 1, and 2 for each question according to their level of satisfaction from poor, average and good respectively. The questions were asked to all the patients included in the study individually; explaining them patiently so that they could comprehend the questions and options completely and encouraged them to put their score in a very sincere and truthful manner without any prompting. The first four questions were based directly on the surgical outcome, fifth about the body image and sixth question onwards were about their experience in our hospital. One question was about any complication they had after the procedure.

The points for each question which was the variable in our study, were recorded and arranged according to the grade of Gynecomastia (Simon Classification, Table 1); and also in relation with age, grouped in years as 15-20, 21 to 25, 26 to 30 and 31 to 35. Mean of each variable was calculated with respect to grade and age interval. The sum of the mean of all the 10 variables was taken as the patient satisfaction score (PSS,Tables 2 and 3), in each grade or age interval.

The mean value was calculated after tabulating the data in Microsoft office Excel spread sheet; Chi square test and test of significance gone using Epi Info software (version 7.2) which is a free software developed by CDC. Ethical committee clearance was obtained from the Institutional Review Committee (IRC) and Board (IRB) in our Hospital.

3. Results

Of the 17 patients (n), 16 were bilateral and 1 unilateral (right side). So a total of 33 breasts were subjected for Subcutaneous Mastectomy through a periareolar incision under General Anaesthesia. Mean follow up period was 30 months (29.88), ranging from 14 months to 54 months. Mean age of the patients at the time of surgery was 25 years (25.06), ranging from 17 years to 34 years. The number of patients and their percentage in each grade of gynecomastia (Simon classification) was Grade 1 (n=8, 47%), Grade 2A (n=7, 41%), Grade 2B (n=2, 12%) and Grade 3 (n=0, 0). The number of patients and their percentage in each age interval was, 15-20 years (n=4, 24%), 21-25 years (n=4, 24%), 26-30 years (n=7, 40%) and 31-35 years (n=2, 12%). The patients with grade 1 and 2 A gynecomastia showed very good satisfaction after Subcutaneous Mastectomy (Table 5), which was 18.71 and 17.28 respectively; whereas those with grade 2B showed good satisfaction, which was 13. In all age intervals, patients showed very good satisfaction (Table 6); more in 15-20(18.25) and 31-35(19) groups. We also did a Chi- square test in our study (Table 7) which showed significant relation between grade of gynecomastia and breast reduction (p value=0.02), breast symmetry (p value = 0.04) and body image (p value=0.02).

4. Discussion

Simon et al. divided gynecomastia into four grades which is the easiest and commonly used classification system. Grade I is small enlargement with no skin excess, grade IIA is moderate enlargement with no skin excess, grade IIB is moderate enlargement with skin excess and grade III is marked enlargement with excess skin.[10] The surgical management of gynecomastia aims at removal of the glandular tissue, fat and excess skin.[4,11] For Simon grade I and IIA, glandular excision through a periareolar incision (subcutaneous or skin sparing mastectomy) with or without liposuction yields good outcome.[4–9,11] For higher grades like IIB and III, methods like reduction mammoplasty with free NAC transplantation, modified breast reduction techniques, and subcutaneous mastectomy with excess skin reduction(concentric skin excision-Benelli, inverted T, lateral wedge excision) may be considered.[4,11–14]

Table 1: Simon classification of Gynecomastia

Grade 1	Small, visible breast enlargement, no skin redundancy
Grade 2A	Moderate breast enlargement without skin redundancy
Grade 2B	Moderate breast enlargement with skin redundancy
Grade 3	Marked breast enlargement with marked skin redundancy.

Table 2: Points/Scores for each variable in the study

Points/ Score	Breast reduction	Breast symmetry	Nipple sensation	Scar visibility	Body image	Compli-cation	Compression garment use	Hospital stay	Hospital visit	Overall experience
2	Good reduction	Good symmetry	Present and normal	Not visible	Good	Nil	Good	Short and pleasant	1or2	Good
1	Average reduction	Average	Intermediate	Slightly visible	Average	Yes, but no interventions	Average/ Not used	Average	>2 but <5	Average
0	No reduction	Asymmetry	Absent	Visible with hyper-trophy	Poor	Yes, interventions required	Poor	Long stay	5 and more	Poor

Table 3: Level of improvement as per Patient Satisfaction Score (PSS).

Score	Level of satisfaction
15-20	Very good
10-15	Good
5-10	Average
0-5	Poor

Table 4: Patient characteristics

Patient Characteristics		Number (Percentage)
Side	Bilateral	16 (94)
	Unilateral, Right	1 (6)
Age group	15-20	4 (24)
	21-25	4 (24)
	26-30	7 (40)
	31-35	2 (12)
Grade	1	8 (47)
	2A	7 (41)
	2B	2 (12)
	3	0(0)

Table 5: Table showing mean value of variables and patient satisfaction evaluation with respect to the grade of gynecomastia.

	Breast reduction	Breast symmetry	Nipple sensation	Scar visibility	Body image	Compli cation	Compression garment use	Hospital stay	Hospital visit	Overall experience	Patient satisfaction score
1 (n=8)	1.75	1.86	2	1.86	1.86	2	1.63	2	1.75	2	18.71 Very good
2A (n=7)	1.43	1.57	1.71	2	1.43	1.86	1.71	2	2	1.57	17.28 Very good
2B (n=2)	0	1	2	2	0	2	2	2	1.5	0.5	13 Good
Total (n=17)	1.41	1.65	1.88	1.94	1.47	1.94	1.71	2	1.82	1.65	17.47 Very good

Table 6: Table showing mean value of variables and patient satisfaction evaluation with respect to the age interval.

	Breast reduction	Breast symmetry	Nipple sensation	Scar visibility	Body image	Complication	Compression garment use	Hospital stay	Hospital visit	Overall experience	Patient satisfaction score
15-20 (n=4)	1.75	1.75	1.75	2	1.75	2	1.25	2	2	2	18.25 Very good
20-25 (n=4)	1	1.5	2	2	1	2	2	2	1.75	1.25	16.5 Very good
26-30 (n=7)	1.29	1.57	1.86	1.86	1.43	1.86	1.86	2	1.86	1.57	17.16 Very good
31-35 (n=2)	2	2	2	2	2	2	1.5	2	1.5	2	19 Very good
Total (n=17)	1.41	1.65	1.88	1.94	1.47	1.94	1.71	2	1.82	1.65	17.47 Very good

Table 7: Table showing the p values of various variables in the study.

	Breast reduction	Breast symmetry	Nipple sensation	Scar visibility	Body image	Complication
Grade	0.0241	0.0385	0.1981	0.5501	0.0167	0.4682
Age interval	0.3105	0.3987	0.6782	0.6782	0.4486	0.6782

Liposuction is the procedure which is usually combined with any surgical procedures for gynecomastia. Even liposuction alone can be considered in grade I gynecomastia using special cannula for glandular resection and in cases with concern regarding scar hypertrophy.[4] In many studies the surgical outcome of subcutaneous mastectomy without any additional procedures for grade 1 and grade 2A gynecomastia had been excellent and considered the procedure of choice.[4,11,15] We also had good surgical outcome in grade 1 and 2A gynecomastia following subcutaneous mastectomy (Figures 1 and 2)

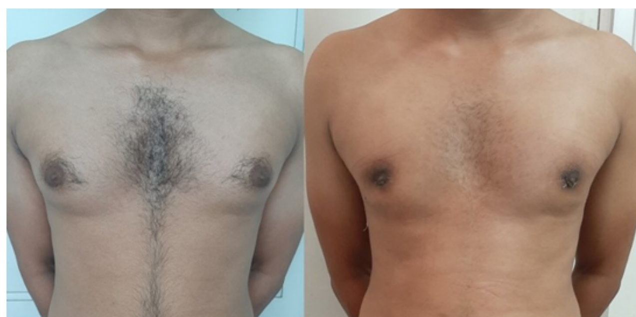

Fig. 1: Grade 1 gynecomastia before and after subcutaneous mastectomy

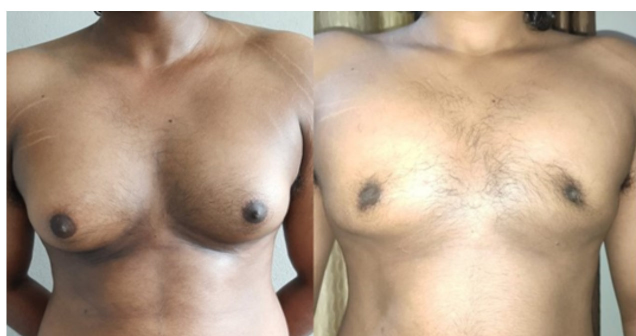

Fig. 2: Grade 2A gynecomastia before and after subcutaneous mastectomy

In our study we had performed subcutaneous mastectomy for all patients without additional liposuction after preoperative investigations. We could identify improved satisfaction in all these patients after the procedure during their first visit and even more during the second visit, when the postoperative edema had subsided completely. Also their confidence level had improved which was reflected vividly on their face, to a higher level than during the OPD visits before the procedure. We had only one patient with a small hematoma in his right breast after the procedure, which had resolved completely with rest and chest bandaging. We needed to reassure them regarding the periareolar incision healing without much scar visibility. Most of them had concerns regarding recurrence and need for further surgeries. They were determined to regain and maintain a healthy body image through diet and exercise.

Identification of gynecomastia during adolescence, assessing its impact on their emotional and physical well-being, reassurance regarding spontaneous resolution of the condition as part of physiological development, the need for non-surgical interventions like psychotherapy, behaviour therapy etc has to be well sort out. This clinical entity, especially in adolescence and early adulthood needs a closer evaluation of their psychological and developmental status before they reach any surgical centres.[6]

5. Conclusion

Very Good patient satisfaction and surgical outcome can be obtained after subcutaneous mastectomy in gynecomastia in spite of many limitations in a Public sector Institution. Through this study, we could endorse the fact that subcutaneous mastectomy through a peri areolar incision, without additional liposuction can yield good surgical outcome and patient satisfaction in grade 1 and 2A gynecomastia. It is also clear that patients have improved body image after the procedure and could lead a better life.

6. Source of Funding

None.

7. Conflict of Interest

The authors declare that there are no potential conflicts of interest for the authorship and publication of the article.

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