

Gynaecomastia correction: A review of our experience

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Introduction:

Gynaecomastia is a common problem in the male population, particularly in young adults, with a reported prevalence of up to 36%¹. The term refers to a benign female-like enlargement of the male breast resulting from an increase in ductal tissue, stroma, and/or fat.

Enlarged breasts can cause anxiety, self-consciousness and embarrassment, functional problems and psychosocial discomfort and fear of malignancy. It is not surprising therefore, that gynaecomastia is the most common cause for seeking medical advice for a breast condition in men. Surgical options for gynaecomastia include liposuction, open resection, and resection with skin reduction. Outcome studies of surgical correction have generally shown high levels of satisfaction^{2,3}. However, Ridha et al demonstrated only a 62.5% of patients within a cohort of 74 patients were 'satisfied' or 'very satisfied' with their surgery⁴. Surgery is, therefore, not a decision to be taken without careful patient assessment. Various techniques have been described over the years but no technique has yet gained universal acceptance.

We aimed to review all gynaecomastia patients operated on under the care of one consultant in a regional unit over a 7-year period to assess the morbidity and complication rates associated with the procedure and to determine whether certain surgical techniques produced improved outcomes.

Key Words: *Gynaecomastia, Liposuction, Open Resection.*

Gynaecomastia is a common problem in the male population with a reported prevalence of up to 36%. Various treatment techniques have been described but none have gained universal acceptance. We reviewed all gynaecomastia patients operated on under the care of one consultant over a 7-year period to

assess the morbidity and complication rates associated with the procedure.

Clinical notes and outpatient records of all patients who underwent gynaecomastia correction at University Hospital North Staffordshire between 01/10/2001 to 01/10/2009 were retrospectively reviewed. A modified version of the Breast Evaluation Questionnaire was used to assess patients satisfaction with the procedure.

Twenty-nine patients and a total of 53 breasts were operated on during the study period. Patients underwent either liposuction alone (6 breasts – 11.3%), excision alone (37 breasts – 69.8%) or both excision and liposuction (10 breasts – 18.9%). Twelve operated breasts (22.6%) experienced some form of complication. Minor complications included seroma (2 patients), superficial wound dehiscence (2 patients) and minor bleeding not requiring theatre (3 patients). Two patients developed haematomas requiring evacuation in theatre. No cases of wound

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infection, major wound dehiscence or revision surgery were encountered. Twenty-six patients (89.7%) returned the patient satisfaction questionnaire. Patients scored an average 4.12 with regards comfort of their chest in different settings, 3.98 with regards chest appearance in different settings, and 4.22 with regards satisfaction levels for themselves and their partner/family.

Overall complication rate was 22.6%. Grade III patients experienced the highest complication rate (35.7%), followed by grade II (22.7%) and grade I (17.6%). Overall complication rates among the excision only group was the highest (29.8%) followed by the liposuction only group (16.7%) and the liposuction and excision group (10.0%). There were high satisfaction rates amongst both patients and surgeon. Eleven patients (37.9%) had their outcome classified as 'excellent' by the operating surgeon, 16 patients (55.2%) as 'good', 1 (3.4%) as 'satisfactory' and 1(3.4%) as 'poor'.

Gynaecomastia is a complex condition which poses a significant challenge to the plastic surgeon. Despite the possible complications our case series demonstrates that outcomes of operative correction can be favourable and yield high levels of satisfaction from both patient and surgeon.

Methods

Operating procedure notes, clinical notes and outpatient records of all patients who underwent gynaecomastia correction at University Hospital North Staffordshire during the the period 01/10/2001 to 01/10/2009 were retrospectively reviewed. For the purpose of this study, we considered each operated breast as an individual case.

The grade of gynaecomastia, the presence of skin excess, causative factors, duration of symptoms and surgical procedure were recorded. Short and long term minor and major complications, poor results and revision rates were recorded and analysed.

No validated outcome assessment questionnaire exists specifically for gynaecomastia correction. We therefore created a three item questionnaire which was sent to all patients who underwent surgery to ascertain their satisfaction with the procedure. This was based on the more comprehensive 55 item Breast Evaluation Questionnaire⁵ which is a validated assessment questionnaire designed to assess patient satisfaction with breast and quality-of-life outcomes following a variety of breast surgery procedures. A similar proforma was used by Ridha et al⁴. The proforma asked patients to rank their satisfaction levels with their surgery in relation to three factors. The first question related to patients' comfort with their breast/chest in different settings (intimate, social and professional). The second question related to the degree of comfort with their breast/chest appearance. The third question asked patients to rank the satisfaction level for themselves and their partner/family. Patients were asked to respond on a 5-point Likert scale (1=very dissatisfied; 2=dissatisfied; 3=neither; 4=satisfied; 5=very satisfied).

Patients were classified as having either mild, moderate, or gross gynaecomastia as per Simon's classification⁶ and the presence of skin excess was noted. Twenty-six patients returned the questionnaire (89.6%).

Results

Twenty-nine patients and a total of 53 breasts were operated on during the study period. Patients were referred from a variety of sources. General practitioners referred 24(82.8%) patients, 4(13.8%) were referred by the general surgical team and 1(3.4%) from the paediatric team. Twenty-eight patients cited emotional problems as the reason for them seeking help whereas one complained of pain and discomfort. The cohort characteristics, outcomes and morbidity are illustrated in Table 1.

The average time from the first outpatient clinic appointment to surgery was 25.3 weeks (range 5-156). Conservative management was attempted in 7 (24.1%) patients before they were listed for surgery. Patients underwent either liposuction alone (6 breasts – 11.3%), excision alone (37 breasts – 69.8%) or both excision and liposuction (10 breasts – 18.9%). All but 5(17.2%) patients had drains inserted which were removed 1-3 days post-operatively.

Twenty-six patients (89.7%) wore some form of support garment post-operatively, with 18(62.1%) wearing an abdominal binder. Support garments were worn for an average of 4.6 weeks (range 3-6) following surgery.

Twelve operated breasts (22.6%) experienced some form of complication. Minor complications included seroma (2 patients), superficial wound dehiscence treated conservatively (2 patients) and minor bleeding not requiring theatre (3 patients).

The only acute major complication encountered were haematomas requiring evacuation in theatre (2 patients). There were no cases of wound infection or major wound dehiscence documented within our patient group. Although one patient was noted to have skin excess post-operatively that may have benefited from revision surgery, this was not possible due to hypertrophic scarring. Patients were followed up for an average of 6.0 months (range 1-11). One patient did not attend again after their first post-operative appointment.

Twenty-six patients (89.7%) returned the patient satisfaction questionnaire. Patients scored an average 4.12 with regards comfort of their chest in different settings, 3.98 with regards chest appearance in different settings, and 4.22 with regards satisfaction levels for themselves and their partner/family.

Table 1: Patient cohort characteristics, outcomes and morbidity

Patient details

Age at surgery; mean (range)	24.5 years (13-39)
Patient weight; mean (range)	82.7 kg (60-104)
Patient BMI; mean (range)	27.1 (20-35.1)
Duration of symptoms; mean (range)	5.3 years (1-20)
Grade of gynaecomastia	Operated breasts
I	17
II	22
III	14
Side involved	No. of patients
Left	5
Right	0
Bilateral	24

Operative time; mean (range)	76 minutes (30-180)
Operative technique	Operated breasts
Liposuction only	6
Excision only	37
Liposuction & excision	10
Weight of tissue removed; mean (range)	155 grams (10-346)
Hospital stay; mean (range)	1.6 days (1-4)
Binder use	18 patients
Morbidity	
Minor complications	7/53 ^a
Acute major complications	4/53 ^b
Unsatisfactory result	1/53 ^c

^a (Seromas, bleeding not requiring theatre, superficial wound dehiscence)

^b (Haematomas, wound dehiscence requiring theatre, wound infection). All of these cases were taken back to theatre on the same admission

^c Revision surgery not possible due to hypertrophic scarring

Discussion

As discussed earlier, gynaecomastia has peaks in incidence within three age groups. Although the highest prevalence is among middle aged and older men (50-80 years old), the oldest patient in our cohort was 39 years old. This may relate to the fact that the most common trigger for surgery was emotional distress and middle aged/older men may be less affected by this stimulus compared to the younger age group.

Overall complication rates for gynaecomastia surgery have been reported to be 15.5%, with the highest rate in grade I patients (21.6%)⁷. Our overall complication rate was slightly

higher than this (22.6%). However, these were mainly minor acute complications that did not significantly affect the final result. There were no cases of nipple-areola complex necrosis or areolar tethering.

Only two patients returned to theatre for evacuation of a haematoma. In our series, grade III patients experienced the highest complication rate (35.7%), followed by grade II (22.7%) and grade I (17.6%). Previous studies have quoted overall revision surgery rates as 17.4%, with the highest rate in grade II patients (34.8%)⁷. None of the patients in our series underwent revision surgery although one may have benefitted from this but could undergo surgery due to hypertrophic scarring.

Complication rates between different surgical techniques also varied significantly. Overall complication rates among the excision only group was the highest (29.8%) followed by the liposuction only group (16.7%) and the liposuction and excision group (10.0%).

Sophocles et al⁸ found that the weight of the specimen excised was not a significant predictor of minor or acute major complications. This is also confirmed by our series of patients. It is not possible to examine whether any factors contribute to a poor cosmetic result within our series as only one patient had an unsatisfactory result.

Outcome studies of gynaecomastia correction have shown varying levels of satisfaction with the results of surgery with Fruhstorfer et al² showing high levels of satisfaction while Ridha et al⁴ showed much lower levels. Our series demonstrated generally high satisfaction rates amongst both patients and surgeon. Eleven patients (37.9%) had their outcome classified as 'excellent' at their second follow up appointment by the operating surgeon, 16 patients (55.2%) as 'good', 1 (3.4%) as 'satisfactory' and 1 (3.4%) as 'poor'. Patients too were generally 'satisfied' with their outcome with regards comfort and appearance.

Conclusion

Gynaecomastia is a complex condition which poses a significant challenge to the plastic surgeon. The initial treatment should aim to correct any underlying abnormality or discontinuing any medications that may be contributing to the condition. Although the efficacy of medical treatment has not yet been well established, conservative measures should be considered prior to surgery.

Gynaecomastia present for more than 2 years is unlikely to regress spontaneously or with medical treatment due to the tissue becoming irreversibly fibrotic³. In these cases surgery remains the mainstay of treatment. Despite many operative techniques being described, the principal aims of surgery remain to correct the deformity, restore normal body contour and image, maintain the viability of the nipple-areola complex and avoid excessive scarring⁸.

Although there are significant possible complications associated with surgery, our case series demonstrates that with careful

planning and shrewd patient selection, outcomes of operative correction can be favourable and yield high levels of satisfaction from both patient and surgeon.

Conflict of interest statement

We declare there is no financial or personal relationship with other people or organisations that could inappropriately influence this work.

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