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Grade 3 Gynecomastia in a 16-Year-Old Teenager: Psychosocial Impact and Management

Kedara Harshitha S[1], Manimaran R[2], Kanchana K[3] and Karthick J[4*]
[1]Department of General Surgery, Sree Balaji Medical College and Hospital, Chennai
[2,3,4]Department of Plastic Surgery, Sree Balaji Medical College and Hospital, Chennai
*Corresponding Author : Manimaran R

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ABSTRACT
A benign growth of the male glandular tissue in the breast is called gynecomastia. With a reported prevalence ranging from 32 to 65%, depending on the age and the definitional criteria, it is a common condition [1].Gynecomastia of infancy and puberty are common, is a common condition during adolescence, affecting up to 65% of teenage boys. In forty to fifty percent of instances, a thorough evaluation may identify an underlying disease. Early diagnosis is important as it results in dread of breast cancer, psychological pain, and worry. Etiology being the imbalance between the hormones, estrogens vs androgens. While often transient, persistent cases can lead to significant psychosocial distress. A thorough assessment of gynecomastia entails gathering a medical history and clinical examination, blood tests, imaging, and histopathology samples are utilised to treat the symptoms and rule out other etiological factor[2] .Gynecomastia, characterized by marked enlargement with excess skin, can be particularly challenging for teenagers, impacting their self-esteem, social interactions, and mental health. This report discusses the psychosocial impact of grade 3 gynecomastia in a 16-year-old male and the management.

Keywords: *Adolescence, Androgen, estrogen, gynecomastia, psychosocial impact, surgery*

INTRODUCTION

Gynecomastia is defined as the histopathologically benign proliferation of glandular male breast tissue, accompanied by an expansion of the male breast tissue and a rubbery or hard mass that expands concentrically and symmetrically from the nipple. It typically affects both breasts and is the most prevalent breast ailment in men*[3]*. Autopsy statistics imply a prevalence of 40, however reported rates of gynecomastia range from 32 to 65% due to the use of diverse techniques of evaluation and analysis of boys of varying ages and lifestyles.

Its etiology may be pathological or physiological. Gynecomastia that is physiological can occur during adolescence, puberty, and old age. There are many different explanations for pathological conditions, however the majority are idiopathic or without any known cause. Theoretically, the fact that adipose tissue is a crucial site for aromatization and oestrogen synthesis might explain the observation that young males with higher body fat percentages often have gynecomastia. Male adolescents and prepubertals seldom experience pathological gynecomastia. This pertains to circumstances in which there is an excess of oestrogen, either relative or absolute: either from exogenous consumption, endogenous synthesis or enhanced peripheral androgen-to-estrogen conversion.[4]

Psychological pain of social ridicule and peer pressure due to unsatisfactory chest form and body image distortions and fear of breast cancer that come with gynecomastia, patients seek medical evaluation. One of the objectives of treatment for these diseases is to restore the nipple-areolar complex and chest to typical male pattern with few or barely noticeable scars.

Case Report

A 16-year-old male came to the OPD with bilateral chest enlargement since 2 years, progressed to the present size, with considerable emotional distress and social withdrawal. He reported being teased at school, avoiding sports activities, and feeling self-conscious in social situations. His academic performance and overall well-being were affected. The patient had no significant medical history or medication use that could account for the condition. Hormonal evaluations were within normal limits, confirming idiopathic gynecomastia.

The patient was then planned and proceeded for liposuction along with glandular excision and central excess skin reduction through circumareolar incision after obtaining anesthetic fitness. Preoperative images are shown in figure 1a ,1b, 1c. Postoperatively regular dressing followed by compression garments and scar gel was advised and followed (figure 2a, 2b). Patient had improved psychosocial benefit and started going back to the routine activities like sports and had significant improvement in self confidence

Surgery should be decided upon individually for each patient, taking into account their specific circumstances. When non-obese male adolescents show chronic breast growth and have been watched for a year or more, surgery is advised towards the conclusion of puberty. Alternatively, breast pain or tenderness, significant psychosocial distress, inability to tolerate treatment, or tissue removal required for cosmetic reasons should be considered.

Fig 1a

Fig 1b

Fig 1 c

Fig1 - 1a and 1b – showing the pre operative pictures of a 16 year old child with gynecomastia and obesity with moderate skin excess and breast hypertrophy (Simon grade iii)

1 c – preoperative marking for grade 3 gynecomastia

Fig 2a

Fig 2b

Fig 2 – 2a and 2b Image following liposuction, glandular excision, and removal of extra skin.

RESULTS

This a single case report on gynecomastia emphasizing the importance of surgical management in improvement of body image and mental wellbeing in adolescent patients , especially grade 3 like our case.

DISCUSSION

Gynecomastia is a benign growth of the breast's male glandular tissue. A trimodal age distribution is observed in general, with etiology being either physiological or pathological. There is a strong psychosocial aspect linked with pubertal gynecomastia , especially grade 3 gynecomastia like in our case, where there can be high incidence of emotional distress and low self esteem. There are 3 peaks during which patients can present with physiological gynecomastia. [5]

With a 60–90% incidence rate, the initial peak happens during infancy or the neonatal period. During pregnancy, the placental estrone and estradiol, enter the foetal circulation, causing the breast glands to proliferate[6]. After delivery, this normally goes away in two to three weeks.

The second peak, which affects 4-69% of youngsters, appears during puberty. the age distribution of the patient population usually starts between the ages of 10 and 12, pubertal gynecomastia peaks between the ages of 13 and 14. It is more prevalent in boys over the age of 17 and typically regresses within 18 years.

The last peak, which has a prevalence of 24-65%, happens in older patients, especially those who are between 50 and 80 years old.Senile gynecomastia has been associated with increased adiposity with ageing because adipose tissue is the primary site of testosterone conversion to oestrogen. Reduced testosterone and the use of medications that may alter androgen or oestrogen concentrations or activity in older men. Mostly, gynecomastia is also brought on by other medicines.[7]

The grading for our patient is according to The 1973 description of the Simon categorization system concentrated on a qualitative evaluation of breast volume and skin redundancy.[4] Treatment for gynecomastia in adolescents can be medical or surgical, depending on the severity and underlying cause. Medical Management includes initial observation since adolescent gynecomastia often resolves spontaneously, a watchful waiting approach is recommended initially. Tamoxifen or aromatase inhibitors may be considered for use in severe and chronic instances, together with selective oestrogen receptor modulators (SERMs), though their use is off-label and should be closely monitored.[8,12]

The main goals of surgical therapy for GM include restoring normal chest features, removing the infra-mammary fold, realigning the nipple-areola complex, excising excess skin, creating symmetry between the left and right chest regions, and limiting scarring. Surgical Management includes liposuction effectively removing excess fatty tissue in cases of mild to moderate gynecomastia. Subcutaneous mastectomy, which entails the direct excision of glandular tissue via a periareolar or transareolar approach, is the most commonly done treatment.In marked enlargement like Grade 3 gynecomastia, in addition to removal of glandular tissue ,excess skin removal is necessary for achieving a more natural chest contour.

The psychosocial impact of gynecomastia in adolescents can be profound. For this patient, the condition led to low self-esteem, social isolation, emotional distress, academic decline[9].Due to the significant psychosocial impact and persistence of Grade 3 gynecomastia, surgical intervention was deemed the most appropriate treatment. Post surgery patient was followed with scar management, compression garments and therapeutic psychological assistance resulting in satisfactory cosmetic outcomes and substantial improvement in his psychosocial well-being[10,11].

CONCLUSION

Gynecomastia in adolescents can cause considerable psychosocial distress, affecting self-esteem, social interactions, and overall quality of life. A multidisciplinary approach, including psychological support and surgical intervention when necessary, is crucial for effective management. Because there is currently very little information available on this topic, more research is desperately needed to determine how gynecomastia surgery affects psychological dimensions. More information on this topic may enhance the patients' pre-operative assessments and assist in determining which ones will benefit from therapy.[13,14,15]

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CONFLICT OF INTEREST
The authors declare that they have no conflict of interest.

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