

Adolescent Male Chest Swelling

Vinayak Kshirsagar^a, Sagar R. Amber^b, Sree Ganesh^b

^aAssistant Professor, Dept. of Surgery, ^bResident, Dept. of General Surgery, Dr. D.Y. Patil Medical College, Hospital & Research Centre, Pune, Maharashtra 411018, India.

Abstract

Most of the cases occur during during puberty. It is benign proliferation of male breast glandular tissue. It is a common presentation in the primary care setting and mostly benign. Treatment is towards the specific etiology when identified. In majority of cases of gynaecomastia observation and reassurance are the main therapy.

Keywords: Gynaecomastia; Surgical Treatment; Adult.

Introduction

Gynaecomastia, a glandular proliferation in male breast. It is caused due to increased oestrogen activity, decreased testosterone activity or use of medications. It is often benign, a general medical history and examination are essential to distinguish normal developmental variance from pathological causes. Most of the cases occur during during puberty. The line of management depends on the cause.

Pharmacological treatment and surgery are the treatment modalities. Gynaecomastia can cause anxiety to the patient. The initial step is to rule out pseudogynaecomastia by examination. A step wise approach that includes imaging and laboratory testing to exclude neoplasms and endocrinopathies may facilitate cost effective diagnosis.

Gynaecomastia in new born almost always regresses spontaneously and completely within the first year of life. Second peak of gynaecomastia occurs during puberty when incidence of palpable breast tissue is 69% and an increase in breast size has been reported during this period [2,3,4].

In the largest study till date on gynaecomastia in adolescents the prevalence was found to be 4% in males aged 10-19 years [6]. Highest prevalence among adults is seen between 50-80 years [7].

Diagnostic criteria has been defined as a palpable mass of subareolar breast tissue measuring atleast 0.5cm or 1cm or 2cm by different investigators [8,9].

The present study aims to perform an analysis of a series of patients with gynaecomastia who were treated with surgical and medical methods, literature with regard to clinical features and prognosis of disease.

The present study reports 6 such cases with the goal of contributing valuable information about this unusual disease to the current literature.

Cases

Elements of patient's history and physical examination-

History

Duration of symptoms

Localized symptoms

History of congenital abnormality

Drug history

Corresponding Author: Sagar Ramesh Ambre, Resident, Dept. of General Surgery, Dr. D.Y. Patil Medical College, Hospital & Research Centre, Pune, Maharashtra 411018, India.
E-mail: sagarmssurgery@gmail.com

Received on 09.11.2017, Accepted on 08.12.2017

Height
Weight
Lymph node
Skin over breast
Other systemic examination
Estrogen-testosterone ratio

Case 1

Twenty five year old male came to opd with history of swelling in bilateral chest since last 6 months. Swelling was small initially and gradually progressed in size. There was no history of pain or trauma to chest. No history of medication or congenital deformity. On examination his general condition was good and vitals were stable.

General physical examination was normal. On examination of chest there was visible fullness on both sides in lower quadrants. Skin over the swelling was normal. Both nipples were normal. No palpable lymph node or any other swelling. Swelling was measuring 4*3 cm. All blood investigations and chest x-ray were normal. Depending on examination patient was diagnosed to have gynaecomastia. USG of breast was done and FNAC was done both concluded gynaecomastia. Patient was prepared for surgery and excision was done under general anaesthesia. Patient was given normal diet and 5 days of antibiotic. Patient was followed up for 6 months post operatively and showed no recurrence.

Case 2

Twenty four year old male came to opd with history of swelling in right chest since 1 year. Swelling was small initially and gradually progressed in size. There was no history of any similar complaints on the other side. Examination of swelling showed 4*4 cm lump in the upper and middle quadrant of breast which was nontender and skin over swelling was normal. No palpable axillary lymph nodes, no other palpable swellings. FNAC and USG breast suggestive of gynaecomastia. Patient was prepared for surgery and excision was done under general anaesthesia. Postoperative period was normal.

Case 3

Nineteen year old male came to opd with history of swelling in the right chest since last 5 years. Swelling was initially small and gradually

progressed in size. There was no associated pain with the swelling. But patient is having anxiety regarding the swelling. USG and FNAC show gynaecomastia. On examination there was 3*2 cm swelling just below the nipple. Skin over the swelling was normal. Patient was prepared for surgery and excision was done under GA. Post operative follow up was done for 2 years and there were no signs of recurrence.

Case 4

Fifteen years old male came to opd with history of swelling in left breast since last 7 years. Swelling was approximately 2*2cm in size, non-tender, mobile. There was no associated pain with swelling. As were the patient's age we counseled the patient and conservative management was advised with 1 year follow up.

Case 5

Twelve year old came to opd with history of swelling in right chest since last 6 months. Swelling was 2cm in size, non-tender, mobile and skin over swelling was normal. As per patient's age we advised patient to follow up with conservative management.

Case 6

Twenty eight years old male came to opd with history of swelling in right breast since last 1 year. Swelling was small and gradually progressed to current size which is approximately 5*4cm. Swelling was non-tender but patient is having discomfort. All blood investigations were normal. Radiological and pathological examination concluded gynaecomastia. Patient was prepared for surgery and excision was done under GA. Post operative period was normal.

For all the patients levels of testosterone were checked were within normal limits.

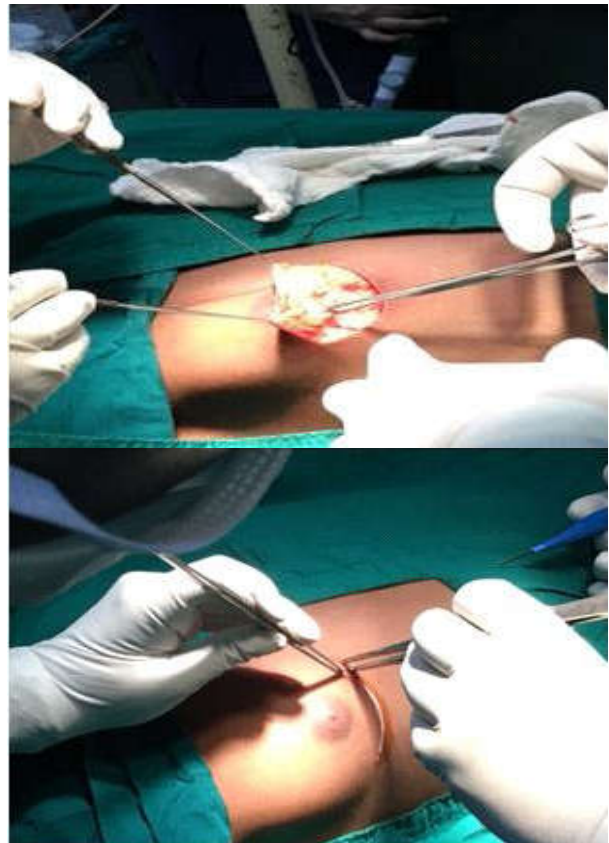
For all the patients there were no signs of malignancy seen so no further radiological investigation was done.

For all patients clinical examination was done properly.

For all patients written and informed consent was taken.

For all the operated case specimen were sent for histopathological examination and the diagnosis of gynaecomastia was confirmed.

Photos



Discussion

Gynaecomastia is usually bilateral [10], but patients may present with asymmetrical or unilateral findings. Palpation demonstrates a palpable tender or non tender firm, mobile, disc like mound of tissue [1,2,3,4]. The presence of varicoceles has also been strongly associated with gynaecomastia [10]. A family history of gynaecomastia has been elicited in 58% of patients with pubertal gynaecomastia. It is also associated with drug history but the association with drugs is unclear. It has also been associated with the use of alcohol and illicit drugs, marijuana, heroin, methadone and amphetamines [4].

Diagnostic approach- After initial history and examination, tissue sampling, mammography was found to be fairly accurate in distinguishing between malignant and benign male breast diseases [11]. Etiology of gynaecomastia is usually imbalance between estrogen and androgen [12]. Pubertal gynaecomastia is thought to be physiological phenomenon and most commonly seen in mid puberty.

Pathological gynaecomastia is rare in adolescents and Pre pubertal boys. It is related to conditions where

estrogen is present in excess. Testicular neoplasms, Klinefelter's syndrome, Peutz-Jegher's syndrome, thyrotoxicosis, cirrhosis, hypogonadism, androgen insensitivity, malnutrition and aging are common causes [13]. Young men with higher body fat percentage often develop gynecomastia [14].

Histopathological gynecomastia is described as florid, fibrous and intermediate types [15]. Bannayan et al have describe these three types [15].

Treatment is depending on the cause, underlying hormonal disorder or drug induced. Pubertal gynecomastia is self limited. Observation is the safest and most reasonable treatment. In adolescents gynecomastia occurs at a sensitive time when boys are aware of their self image [16].

Treatment plan is either medical or surgical. Medical treatment aims to correct the estrogen-androgen imbalance by blocking effect of estrogen on breast, by administering androgen, by inhibiting estrogen production. Surgery may be considered if no regression is seen after observation for atleast 1 year [14].

Most commonly used technique is subcutaneous mastectomy. Surgical treatment produces good cosmeses and is well tolerated [17].

After surgical excision histological analysis is recommended in true gynecomastia. Because 3% of cases have findings of spindle cell hemangioma and papilloma [17].

Conclusion

Gynecomastia is benign but approach should be systematic starting with history, physical examination, laboratory and imaging to exclude other pathologies. For gynecomastia in adolescents surgical management may be considered. Surgical treatment provides good results. Pharmacological treatment is not given in adolescents having gynecomastia.

References

- Braunstein GD. Gynecomastia. *N Engl J Med.* 2007; 357(12):1229-1237 [PubMed].
- Georgiadis E, Papandreou L, Evangelopoulou C, et al. Incidence of gynecomastia in 954 young males and its relationship to somatometric parameters. *Ann Hum Biol.* 1994;21(6):579-587 [PubMed].
- Niewoehner CB, Nuttal FQ. Gynecomastia in a hospitalized male population. *Am J Med.* 1984;77(4): 633-638 [PubMed].
- Nordt CA, DiVasta AD. Gynecomastia in adolescents. *Curr Opin Pediatr.* 2008;20(4):375-382 [PubMed].
- Bembo S A, Carlson H E. Gynecomastia: its features, and when and how to treat it. *Cleve Clin J Med.* 2004; 71(6):511-517. [PubMed].
- Kumanov P, Deepinder F, Robeva R, Tomova A, Li J, Agarwal A. Relationship of adolescent gynecomastia with varicocele and somatometric parameters: a cross-sectional study in 6200 healthy boys. *J Adolesc Health.* 2007;41(2):126-131. [PubMed].
- Nuttall F Q. Gynecomastia as a physical finding in normal men. *J Clin Endocrinol Metab.* 1979;48(2):338-340. [PubMed].
- Niewoehner C B, Nuttal F Q. Gynecomastia in a hospitalized male population. *Am J Med.* 1984;77(4): 633-638. [PubMed].
- Nydick M, Bustos J, Dale JH Jr, Rawson RW. Gynecomastia in adolescent boys. *JAMA.* 1961; 178:449-454. [PubMed].
- Kumanov P, Deepinder F, Robeva R, Tomova A, Li J, Agarwal A. Relationship of adolescent gynecomastia with varicocele and somatometric parameters: a cross-sectional study in 6200 healthy boys. *J Adolesc Health* 2007;41(2):126-131 [PubMed].
- Evans GF, Anthony T, Turnage RH, et al. The diagnostic accuracy of mammography in the evaluation of male breast disease [published correction appears in *Am J Surg.* 2001;181(6):579] *Am J Surg.* 2001;181:96-100 [PubMed].
- Mathur R, Braunstein GD. Gynecomastia: pathomechanisms and treatment strategies. *Horm Res.* 1997;48(3):95-102. [PubMed].
- Bidlingmaier F, Knorr D. Plasma testosterone and estrogens in pubertal gynecomastia. *Z Kinderheilkd.* 1973;115(1):89-94. [PubMed].
- Ma N S, Geffner M E. Gynecomastia in prepubertal and pubertal men. *Curr Opin Pediatr.* 2008;20(4): 465-470. [PubMed].
- Bannayan G A, Hajdu S I. Gynecomastia: clinicopathologic study of 351 cases. *Am J Clin Pathol.* 1972;57(4): 431-437. [PubMed].
- Maidment S L. Question 2. Which medications effectively reduce pubertal gynecomastia? *Arch Dis Child.* 2010;95(3):237-239. [PubMed].
- Handschin AE, Bietry D, Hüsler R, Banic A, Constantinescu M. Surgical management of gynecomastia—a 10-year analysis. *World J Surg.* 2008; 32(1):38-44 [PubMed].