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Case report

Idiopathic Unilateral Post Pubertal Gynecomastia: Case Series

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Abstract:

Background:

Gynecomastia can arise from estrogen and androgen hormones action imbalance, evaluation of gynecomastia must include a detailed medical history, clinical examination, specific blood tests, imaging and tissue sampling. Definitive treatment ranges from simple reassurance to medical treatment, and in extremes cases, surgery. The main aim of any intervention is to relieve the symptoms and exclude other etiological factors. In this case series, we notify the rising number of idiopathic gynecomastia in our center by presenting the history, clinical findings and surgical treatments of several male patients who presented with gynecomastia within one month.

Conclusion:

Long-standing symptomatic Idiopathic post pubertal gynecomastia should be offered surgical treatment. The surgical indication increases when no etiological cause could be found following evaluation. Surgical treatment helps to exclude other pathological risks through histological evaluation.

Keywords:

Case Series, Idiopathic Gynecomastia, Treatment Method

Declaration Of Conflicting Interest:

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Introduction:

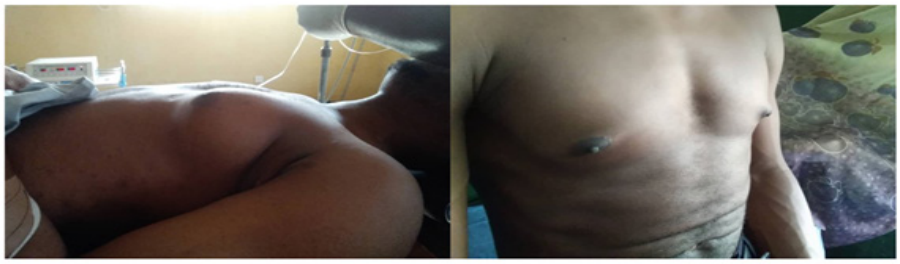
Gynecomastia is a condition in which the glandular components of the male breast proliferate, resulting in an enlargement of one or both breasts. Three distinct age peaks are identified; the neonatal period, in which palpable breast tissue develops in 60% to 90% of all newborns due to transfer of estrogens across the placenta. The second physiological peak of occurrence is at puberty between the ages of 10 and 16 years. Approximately 50–60% of adolescents have been estimated to have gynecomastia based upon early literature. This occurs as a result of an imbalance between estrogens and androgens within the breast tissue. The last peak in incidence of gynecomastia is seen in men 50–85 years of age, and the reported prevalence is up to 70%. [1,2] Common causes of gynecomastia in adults include liver disease, testicular tumors, drugs like digitalis, antiandrogens, propranolol, highly active antiretrovirals and tricyclic antidepressants. [3] Prepubertal gynecomastia is rare in contrast to gynecomastia in adolescent boys and adult men. Gynecomastia accounts for 60% of all disorders of the male breast and can be bilateral or unilateral. [1,4] Bilateral gynecomastia is common in the neonatal period, early puberty, and as the age increases while prepubertal unilateral gynecomastia is rare, with only a few cases in literature. [3,5] Pubertal gynecomastia usually regresses within 18years and is uncommon in males aged 17 and older. [6,7] Since gynecomastia can arise from estrogen and androgen hormones action imbalance, evaluation of gynecomastia must include a detailed medical history, clinical examination, specific blood tests, imaging and tissue sampling [8]. Definitive treatment ranges from simple reassurance to medical treatment, and in extremes patients can be treated surgically. The main aim of any intervention is to relieve the symptoms and exclude other etiological factors.[6] We report four post pubertal cases of unilateral gynecomastia in the absence of hormonal imbalance in our center within one month period.

Case 1

A 26-year-old boy presented with a 3-year history of progressive unilateral left breast enlargement. The swelling was not painful but was associated with some discomfort and social stigma. There was no family history of breast malignancies or gynecomastia. No history of use of drugs implicated in gynecomastia, testicular tumor or liver disease. Physical examination showed a healthy adult with stable and within normal vital signs (BP:120/80nmmHg, Pulse rate:80b/m, Temp: 36.5°C, weight 80kg, Height; 1.8m, BMI: 24.69kg/m2.

On breast examination; there was breast asymmetry, the right breast was normal while the left contains a uniformly diffused non-tender mass, firm in consistency measuring approximately 5.0 cm in diameter, grade iv (Moobs classification grading system). There was no expressible galactorrhea and no palpable axillary lymphadenopathy (figure1).

Patient underwent investigations which included, endocrine, hematological and radiological profiles. The summary of all endocrine and hematology tested with corresponding results are as in Table 1 All parameters were found to be within normal limits. Ultrasound examination of the left breast revealed thickened subcutaneous fats and a retro-areolar glandular tissues measuring 2.5cm in anteroposterior diameter. The right breast was normal and both axillae were free of masses. A radiological diagnosis of left breast gynecomastia was made. An abdominal ultrasonography scan excluded any estrogen-producing tumor and liver pathology. Patient was worked up for subcutaneous mastectomy under general anesthesia through an infra-mammary incision. The specimen dissected measured 13.0 x 12.0 x 3.0 cm. (figure 4) Pathologic examination of resected specimen revealed numerous dilated ducts lined by low cuboidal to flattened epithelium in a background of fibrous tissue, features were consistent with gynecomastia. Recovery was uneventful and patient was followed up at outpatient clinic for 6months. At a postoperative clinical evaluation, there were no signs of breast development (Figure 4).



Pre-op Post-op

Figure 1: Case 1

Case 2

A 24-year-old boy presented with a 3-months history of progressive unilateral left breast enlargement. The swelling was not painful but was associated with some discomfort and social stigma. There was no family history of breast malignancies or gynecomastia. No history of use of drugs implicated in gynecomastia, testicular tumor or liver disease. Physical examination showed a healthy adult with stable and within normal vital signs (BP:110/80nmmHg, Pulse rate:60b/m, Temp: 36.7°C, weight 71kg, Height; 1.77m, BMI: 22.66 kg/m2.

On examination of the breast, there was breast asymmetry, the right breast was normal while the left contains a uniformly diffused non-tender mass, firm in consistency measuring approximately 3.8cm in diameter, Gynecomastia grade 111. There was no expressible galactorrhea and no palpable axillary lymphadenopathy (figure 2).

He was investigated in line with endocrine, hematology and radiology. The summary of all endocrine and hematology tested with corresponding results are as in Table 1. All parameters were found to be within normal limits. Ultrasound examination of the breast revealed a normal right breast and a left breast with a thickened subcutaneous fat and a retro-areolar glandular tissues measuring 1.5cm in anteroposterior diameter. There were no axillary masses seen. A radiological diagnosis of left breast gynecomastia was made.

An abdominal ultrasonography scan showed no estrogen-producing tumor and liver pathology. Patient was worked up for subcutaneous mastectomy under general anesthesia via an infra-mammary incision. The specimen dissected was a grayish-tan tissue measured 9.5 x 4.5 x 2.5cm, firm to touch, section showed the breast tissue within which the ducts show moderate epithelial hyperplasia and were surrounded by prominent swollen stroma, which contains large amounts of acid mucin. The lobular units (acini) are not developed. No atypical cells or structures were seen and a diagnosis of left breast gynecomastia was made. (figure 4) Patient fully recovered and was followed up at outpatient clinic for 6months with no signs of recurrence.

Figure 2: Case 2

Case 3

An 18-year-old boy who presented with a painful left breast swelling of 1year duration with no associated nipple discharge, excoriations. There's no known family history of breast and other cancers. He has no history suggestive of endocrine disorders, liver disease and childhood mumps. He is not on any drugs implicated in gynecomastia. Physical examination showed a healthy teenager with normal vital signs (BP: 90/6/mmHg, P: 74/min, RR: 20/min, Weight; 45kg, Height: 1.60m BMI: 17.58kg/m2

On examination of the breast, there was breast asymmetry, the right breast was normal while the left contains a uniformly diffused non-tender mass, firm in consistency measuring approximately 3.0cm in diameter, Gynecomastia grade 111. There was no expressible galactorrhea and no palpable axillary lymphadenopathy (figure 3).

The summary of all endocrine and hematology tested with corresponding results are as in Table 1. Breast ultrasound done showed a normal right breast and a left breast with a thickened subcutaneous fat and a retro-areolar glandular tissues measuring 2.0 cm in anteroposterior diameter, no enlarged axillary lymph nodes seen. A diagnosis of left breast gynecomastia was made. an abdominal ultrasound scan showed normal findings. Patient was worked up for subcutaneous mastectomy under general anesthesia via an infra-mammary incision. The specimen dissected measured 6.1 x 2.0 x 1. 5cm. Histopathology revealed numerous dilated ducts lined by low cuboidal

to flattened epithelium in a background of fibrous tissue. The acini are not developed. Features were consistent with left breast gynecomastia.

Figure 3: Case 3

Patient	Hematology Results	Endocrine Results
Case 1	PCV: 46% WBC: 9.1X10g/l Platelet:196 X 10g/l Neut: 55% Eosino: 18% Mono: 05%	Estradiol:45pg/ml [<60] Testosterone:5.8ng/ml [3-10]
Case 2	PCV: 42% WBC: 10.0X10g/l Platelet:200 X 10g/l Neut: 50% Eosino: 20% Mono: 08%	Estradiol: 48.2ng/ml [<60] Testosterone:5.4ngml [3-10] FSH:11.0ng/ml [10-14.0] LH :1.39ng/m l[1.24-7.8]
Case 3	WBC: 11.0X10g/l Platelet:230 X 10g/l Neut: 57% Eosino: 16% Mono: 03%	Estradiol: 50ng/ml [<60] Testosterone:6.2ngml [3-10] FSH:10.7ng/ml [10-14.0] LH :2.0ng/m l[1.24-7.8]

Figure 4: Specimens

Discussion:

In literature, the frequency of bilateral gynecomastia has been shown to be more common than unilateral gynecomastia. [9,10] The reported prevalence of unilateral gynecomastia is approximately 35–45%. [11,12] In our report all cases are left unilateral gynecomastia, with none presenting bilaterally, the need to report the cases.

The duration of gynecomastia is a major factor affecting the initial approach to treatment [8]. Because gynecomastia usually regresses spontaneously, if clinical evaluation and laboratory investigations do not reveal any considerable underlying pathology, reassurance and periodic follow-up should be advocated at 6-monthly intervals [13]. However, if gynecomastia persists for more than 1 year, instances of complete regression are low, due to the predominance of dense

fibrous tissue. [14,15] All our patients had their symptoms for >2years, the reason for advocating to offer treatment to them.

Treatment may be indicated, in severe breast enlargement, associated pain that interferes with the patient's normal daily activities, for cosmesis and in feeling of social stigma. [14,15] Our patients had social discomfort, with one having associated pain, as such needed further treatment than reassurance.

Indications for surgery are in considerable discomfort, psychological stress, cosmetic problems, long-standing gynecomastia of more than 12 months and when malignancy is suspected. [7,15] Though the risks of malignancy were not found on clinical assessment of our patients, the duration of symptoms, age of patients and other merited indications for surgery were our drive to treat our patients surgically.

Surgery is less recommended in adolescents until the testes have reached adult size, because recurrence is high if surgery is performed before puberty. [14,15] All our patients who had surgical treatment were beyond adolescent age, only one whose symptoms though beyond 2years had surgery because of associated severe pain.

In surgery the aim is to achieve a normal appearance of the masculine thorax with the smallest possible scar. [16] Different surgical techniques can be used, the choice of technique depends on the degree of the gynecomastia, whether there is associated redundant skin or not. [11] Subcutaneous mastectomy is the most commonly used technique, it involves resection of the glandular tissues with or without liposuction. [17,18] Extensive surgeries can be offered to patients with grade iv gynecomastia who have associated redundant skin and ptosis.[17] All our patients had subcutaneous mastectomy without liposuction with beautiful results.

Conclusion:

Long-standing symptomatic Idiopathic post pubertal gynecomastia should be offered surgical treatment. The surgical indication increases when no etiological cause could be found following evaluation. Surgical treatment helps to exclude other pathological risks through histological evaluation.

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