

Gynecomastia

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A previously healthy 30 year old, military male, presented with bilateral gynecomastia of 3 years duration. Clinical examination was irrelevant apart from bilateral breast enlargement. Laboratory investigations including hormonal assays and radiological investigations were normal. Fine needle aspirate showed normal breast tissue. The diagnosis was made as idiopathic gynecomastia. He was referred to plastic surgery for cosmetic reason upon his request.

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The development and function of the breast is influenced by a large variety of endocrine factors, most important of which are prolactin and estrogens. Gynecomastia is defined as glandular enlargement, or the occurrence of mammary tissue in the male breast. It is different from pseudogynecomastia which refers to breast enlargement secondary to adipose tissue as in obese men or prominent pectoralis major as in athletes.

THE CASE

Thirty year old male patient, military, not known to have previous medical or surgical illnesses, presented to the clinic with gradual onset of bilateral breast enlargement for the last 3 years, but with no other breast symptoms. Careful history revealed no specific complaints. There were no history of trauma, drug and alcohol intake or familial history of breast enlargement. Clinical examination showed bilateral palpable, firm masses, centrally located in the subareolar region. There were no exophthalmus, thyroid enlargement, abdominal organomegaly or testicular swelling. Fundoscopy was normal. Laboratory investigations including hormonal assays (estrone, estradiol, testosterone, serum prolactin, T₃, T₄, FSH, LH, TSH & HCG) were normal. CBC, ESR, liver and renal function tests were normal. Radiological investigations including chest X-ray, skull films, thyroid, abdominal and scrotal ultrasound were normal. Brain MRI, chest and abdominal CT scans revealed no abnormalities. Fine needle aspirate was performed but had normal breast tissue. The diagnosis was made as idiopathic gynecomastia¹. He was referred to plastic surgery for cosmetic purposes upon his request.

DISCUSSION

Gynecomastia is the breast abnormality most frequently seen by the physician.^{2,3} It occurs in most newborn males

Table 1. Causes of Gynecomastia

PHYSIOLOGIC
Newborn, puberty, old age
IDIOPATHIC
DRUGS
Estrogens
Androgens
Chorionic gonadotropin
Spironolactone, digoxin
Flutamide, cyproterone acetate, ketoconazole
Amphetamines, tranquilizers, methyldopa, cimetidine
ASSOCIATED WITH CHRONIC DISEASES
Thyrotoxicosis
Hypothyroid
Chronic liver disease
Chronic renal failure
Congestive heart failure
"Refeeding" after starvation or treatment of anorexia nervosa
ASSOCIATED WITH HYPOGONADISM
Klinefelter's syndrome, anorchia, orchitis
Androgen resistance syndrome, Testicular feminization syndrome
Reifenstein's syndrome
TUMORS
Estrogen or androgen-secreting
Human chorionic gonadotropin-secreting germinomas ectopic,
hormone syndrome (bronchial carcinoma)

as a result of exposure to high estrogens before birth, but this effect disappears in a few weeks. At midpuberty the majority (60-70%) of male adolescents develop transient

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subareolar breast tissue during stage II and III. This physiologic pubertal gynecomastia is usually unilateral (20% bilateral) and tender. Spontaneous regression may occur within a few months; it rarely persists longer than 2 years. The proposed causes include testosterone-estrogen imbalance, increased prolactin level, or abnormal serum binding protein levels. Treatment usually consists of reassurance of the patient and his family of the physiologic and transient nature of the phenomenon. Surgical removal of the breast is rarely indicated unless it is strikingly large and causing serious emotional disturbance.⁴

Pathologic gynecomastia may result from a lot of pathologic conditions listed in Table 1.

Often the cause of the breast enlargement is apparent from the clinical picture as in pubertal gynecomastia or when it appears in the course of an already diagnosed condition, but sometimes the etiology is obscure. In this instance a full history and physical examination are necessary to establish the nature of the underlying process. Special attention should be paid to the symptoms and signs suggestive of androgen deficiency or estrogen excess with a particular search for evidence of hypogonadism or feminization.

The testes should be palpated for a tumor, and signs of liver disease or hyperthyroidism should be sought. A history of drug ingestion or excessive alcohol intake is important. Investigations should include testosterone, oestradiol, prolactin, and gonadotrophin measurements. In obscure

cases, tests for adrenal neoplasia should be done and if gonadotropin levels in the presence of normal tests are high, an ectopic source may be revealed by the appropriate biochemical and radiological procedures.

As for treatment, if gynecomastia is idiopathic, reassurance of the common and benign nature of the process is given. Resolution may take several months to two years. Medical reduction has been achieved with pharmacotherapeutic agents such as dihydrotestosterone heptanoate, danazol, clomphene citrate, and tamoxifen citrate, but these should be reserved for those with no decrease in size after 2 years. Surgery is reserved for those with significant psychological trauma or severe breast enlargement.

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