

## Case Report

# Idiopathic gynaecomastia in twins: a case report

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### ABSTRACT

Gynaecomastia is a common pathological condition of breast seen in men. This is defined as benign enlargement of breast tissue in males. It was first described by Palus Aegineta (AD 635-690). Herewith we are presenting cases of 14 year old twins attending the surgical O.P.D with bilateral enlarged breasts and pain. A diagnosis of pubertal gynaecomastia was made with no evidence of malignancy by histopathological examinations and mammography. One boy with 5 x 6 cm of right breast and 2 x 3 cm of left breast was treated by subcutaneous mastectomy. Other boy had only enlargement of nipple and areola. He was reassured and sent home without surgical intervention. A rare case of idiopathic gynaecomastia in pubertal twins is described here.

**Keywords:** Gynaecomastia, Oestrogen, Liposuction, Subcutaneous mastectomy

### INTRODUCTION

Gynaecomastia is defined as benign proliferative hypertrophy of male breast glandular tissue.<sup>1</sup> Physiological gynaecomastia is seen in newborn due to the effect of maternal sex hormones and this effect disappear in a few weeks.<sup>2</sup> The sub areolar hyperplasia or Tanner stage 3 or 4 seen during mid puberty in 25% of the pubertal boys. It is self limiting condition, but can be treated to ameliorate emotional distress and physical discomfort.<sup>3</sup> Men older than 50 yrs experience gynaecomastia due to decreased free testosterone levels. The male breast is histologically similar to the female breast with fewer lobular elements. The difference in growth and proliferation of breast tissue in both sexes is largely affected by the endocrine environment. Oestrogen is the main hormone responsible for the proliferation of breast. Puberty is characterised by secretion of both testosterone and oestradiol at a rate sufficient to increase serum concentration by 20 fold or more.<sup>4,8</sup> Benign pubertal gynaecomastia accounts for about 25% of all cases of gynaecomastia in men.<sup>9</sup>

Non physiological gynaecomastia may be caused by chronic diseases like hepatic cirrhosis, hypogonadism and hyperthyroidism. Use of some drugs like marijuana, heroin, methadone, amphetamine and alcohol abuse usually cause gynaecomastia by increased oestrogen levels in men. Some herbal compounds, particular those containing phytoestrogen may also cause gynaecomastia. The presentation of gynaecomastia is usually bilateral. 60% of boys up to 14 yrs have gynaecomastia which may affect one breast, by the age of 20 the prevalence is 19%.<sup>10</sup> Discontinuing use of causative medication and treating underlying causes is the mainstay of treatment.

About 25% of all cases of gynaecomastia are currently classified as idiopathic. In this group of patients circulating sex hormones, Sex hormone binding globulin and gonadotrophins are within reference limits. The development of gynaecomastia is attributed to an altered tissue response which may be due to reduction in androgen receptors and/or a local increase in aromatase activity in the breast.<sup>11</sup>

Pathological gynaecomastia is caused by oestrogen producing tumours of testis and adrenal cortex where there is excessive production of oestrogens. Human chorionic gonadotrophin (hCG) producing testicular tumours are commonly presents with gynaecomastia.<sup>12-14</sup> Ectopic hCG secreted by lung or GI tumours also cause gynaecomastia.<sup>15</sup> Tumours producing hCG accounts for approximately 3% of all adult cases with gynaecomastia. Other pathological conditions like thyrotoxicosis, hyperprolactonaemia, chronic renal failure and hepatic cirrhosis accounts for small percentage of gynaecomastia. All forms of inherited condition like Klinefelter's syndrome and acquired hypogonadism may cause primary testicular failure due to, mumps, irradiation and chemotherapy.<sup>16-18</sup>

## CASE REPORT

Herewith we are presenting a case of gynaecomastia of 14 year old twins from coastal area of Andhra Pradesh, India. They came with gynaecomastia with mastalgia. Both the boys were examined clinically. A 5x6 cm palpable mass was seen in upper outer quadrant of right breast of first case, his left breast had of 2.5x3 cm disc like mass beneath the nipple and areola. Second boy had 2x2 cm mass in his right breast, under his nipple and areola. His left breast had no significant changes. Skin over the both breasts appeared normal in both cases. Axillary lymph nodes were not palpable.



**Figure 1: Gynaecomastia in twins.**

In general physical examination is unremarkable. Testis was examined for size because small testicles suggest hypogonadism and abnormal consistency suggestive of testicular carcinoma. First case was sent to mammography and his mammographic report showed prominent fibroglandular pattern with well defined tiny calcific density seen in right superio-lateral quadrant of right breast. Skin, subcutaneous tissue and retromammary regions were appeared to be normal. No obvious axillary lymphadenopathy was seen. Mammographic report on right side showed hyperechoic glandular parenchyma with increased subcutaneous tissue. On left side mammography showed hyper, hypoechoic glandular tissue extending away from the retroareolar region.

## DISCUSSION

This case of bilateral gynaecomastia with benign aetiology. Pseudogynaecomastia is the most common condition that often confused with true gynaecomastia. Pseudogynaecomastia is enlargement of breast due to fat

rather than breast tissue. Asymptomatic gynaecomastia is more common and has a trimodal age distribution, occurring in neonates, pubertal and elderly males. The prevalence of gynaecomastia is 60-70% in neonates, 50-60% adolescents, up to 70% in men aged 50-69yrs.<sup>2</sup>

The imbalance between oestrogen action relative to androgen action at the breast tissue level appears to be more common aetiology of Gynaecomastia.<sup>3</sup> Elevated serum oestrogen levels may be a results of oestrogen secreting tumours like Sertoli cell tumour or adrenocortical tumour. This case has not shown any signs of tumours. But more common reason for the variation in the ratio of oestrogen and androgen is caused by increased extragonadal conversion of androgen to oestrogen by tissue aromatase. Levels of free serum testosterone are decreased in patients with gonadal failure which can be primarily seen in Klinefelter's syndrome, Mumps orchitis, castration or secondary to hyperthyroidism and pituitary diseases. As Barr body of these two cases were negative Karyotyping was not ordered to detect Klinefelter's syndrome (karyotyping 47xxy). Thyroid status of these two cases was normal.

## Differential Diagnosis

Lipoma, dermoid cyst, sebaceous cyst, Lympho plasma cystic inflammation, ductal ectasia, hematoma and fat necrosis.

## Treatment

Surgical treatment gives good cosmosis and is well tolerated. Subcutaneous mastectomy is a surgical procedure which effectively removes breast lumps.



**Figure 2: Pre operative.**

Webster classified gynaecomastia into 3 stages

1. Glandular type
2. Fatty glandular
3. Simple fatty.

Patient with a glandular component require surgical removal of the gland. In the fatty glandular form, surgery combined with liposuction gives good contouring.<sup>19,20</sup>

Second type of classification by SIMON in 1973 according to the size of gynaecomastia.<sup>21</sup>



**Figure 3: Post operative.**

1. Minor but visible breast enlargement without skin redundancy.
- 2a. Moderate breast enlargement without skin redundancy.
- 2b. Moderate breast enlargement with skin redundancy.
3. Gross breast enlargement with skin redundancy.

### CONCLUSION

Here with we report a case of fatty glandular tissue according to Webster classification. Surgeons prefer to do surgery for mild to moderate gynaecomastia and surgery with liposuction for fatty gynaecomastia. Most preferable surgery here is subcutaneous mastectomy. After surgery samples were sent to histopathological examination. The report of histopathology is fibrofatty masses. Second case has enlargement of right breast. His left breast is normal in size. He was advised to come for review after two months. Gynaecomastia is the development of glandular and ductal tissue in the male breast. In non-idiopathic gynaecomastia it is important to search and find the cause of the breast development. The condition is generally benign and resolves spontaneously without treatment. If it is not resolved spontaneously surgical treatment is considered. Gynaecomastia is a common problem of breast in males. Knowledge of potential causes and correct approach to the case of gynaecomastia lead to better outcome and patient satisfaction.

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