

Research Article**Gynaecomastia- Diagnosis & Management: A Study of 25 Cases**Anjanappa H T^{1*}, Arjun A²¹Professor and Head, Department of Emergency Medicine, P E S Institute of Medical Sciences and Research, Kuppam, Andhra Pradesh- 517 425, India²Post Graduate student, Department of General Surgery, P E S Institute of Medical Sciences and Research, Kuppam, Andhra Pradesh- 517 425, India***Corresponding author**

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Abstract: Male gynaecomastia is a commonly occurring aesthetic concern. It is often benign, but malignancy needs to be ruled out especially in patients above 40 years. Various treatment techniques have been described, but none have gained universal acceptance. We reviewed 25 cases of gynaecomastia presenting to the department of surgery. Clinical notes and outpatient records of all patients presenting with gynaecomastia between January 2013 to January 2014 were collected and evaluated. The average age group of presentation was 32.72 years. All patients presented with enlargement and pain in breast area. Ultrasonography revealed hypoechoic masses in 17 cases. All these cases were operated, with histopathology showing benign lesions. Conclusion: Majority of pubertal gynaecomastia require only observation and reassurance. Surgery or medical management is usually reserved only for selected cases.**Keywords:** Gynaecomastia, Ultrasonography.

INTRODUCTION

Gynaecomastia is defined as proliferation of glandular elements resulting in concentric enlargement of one or both male breasts. Medical intervention is commonly sought in gynaecomastia. Its occurrence among men over the age of 17 is estimated between 32-65% [1-3]. Gynaecomastia can be physiological or non-physiological and occurs due to disruption of estrogen-progesterone ratio leading to proliferation of glandular breast tissue. Physiological gynaecomastia has a trimodal distribution (neonatal, pubertal and elderly males). It is usually self limited and treated to reduce emotional distress and physical discomfort [4-6]. Non-physiological gynaecomastia may be caused by endocrine tumors (Testicular, adrenocortical or pituitary tumors), endocrine dysfunctions (Hypogonadism, hyperthyroidism, obesity), Non-endocrine causes (cirrhosis, renal failure, HIV) or drug induced factors [5-7]. Gynaecomastia is the most common cause seeking medical advice among breast condition in men. It is characterised by the presence of soft, 2-4 cm diameter discus shaped enlargement of tissues under the nipple. Due to this, they can present with anxiety, self-consciousness, embarrassment, functional problems, psycho-social discomfort and fear of malignancy. Reassurance is most commonly given, and treatment if necessary, options include medical and surgical therapy [3, 8, 9]. Herein we present a study of 25 cases of

gynaecomastia at our centre. We aimed to assess the correlation between diagnosis and management.

MATERIALS AND METHODS

This was study conducted in a tertiary care centre in south India between January 2013 to January 2014. Male patients of all age groups, who presented with clinical features of gynaecomastia presenting to Department of Surgery were included in the study. A complete patient history and full physical examination was performed including breast, abdominal and testicular examination. Patients with diffuse enlargement and no discrete mass were clinically categorized as gynaecomastia and included in the study. Ultrasound was performed in all cases and in patients above 40 years, additionally mammography was done. Patients with breast cancers were excluded from the study. A total of 25 cases were part of the study. Data was obtained regarding patient demographics, clinical presentation, workup, etiology found and management done. Ethical clearance was obtained for the study. Informed consent was obtained from all participants to be included in the research.

RESULTS

Study consisted of 25 males presenting with gynaecomastia. The youngest was 17 and the eldest was 56 years old in our study. The average age group was 32.72 years. All presented with enlargement and

pain in the breast area. The symptoms varied from 1 week to 1 years with a variable period with enlargement preceding pain in all the cases. Mass was palpable and tender in all the cases. Testis atrophy was seen only in one case. Liver and thyroid function tests were normal in all the cases. Biochemical studies revealed normal testosterone, estrogen and hcg levels in 11/25 cases. Testosterone normal, estrogen increased with normal hcg in 4 cases. The remaining cases all showed lower testosterone with increased estrogen and normal HCG. Ultrasonography revealed areas of hypoechoic masses in 17 cases. In the remaining cases fatty breast was noted. Reassurance was given in 8 cases (fatty breast on ultrasound) with excision surgery in the remaining 17 cases. Histopathology revealed benign proliferative breast disease in 15 cases and two cases were diagnosed as lipoma.

DISCUSSION

The term gynaecomastia (Greek, gyne- woman, mastos – breast) was introduced in the first century A.D. by Galen. Gynaecomastia is a common benign condition appearing both uni- and bilaterally in early puberty and late adulthood [3, 10, 11]. Also endogenous hormonal imbalance in estrogen/ androgen ratio or drugs having estrogen effects/ injuries to gonads or liver (affecting estrogen/androgen ratio) could predispose to gynaecomastia. Drugs associated with gynaecomastia include antibiotics, cardiovascular medications and psychoactive drugs. Occasionally treatment of malignancies can lead to gynaecomastia [3, 6, 7]. Gynaecomastia diagnosis involves clinical examination, biochemical studies, ultrasound and mammography. Invasive methods include cytology and histopathology, which is necessary for confirmation. In the assessment of gynaecomastia, Tanner and Marshall's five stage scale grading could be useful for evaluation of proper development of breast [3].

Different investigators have defined, clinical diagnostic criteria for gynaecomastia as a palpable mass of subareolar breast tissue measuring at least 0.5cm, 1 cm or 2cm [10]. Gynaecomastia in prepubertal age group or adolescents with physical examination suggesting underlying disorder should be seriously evaluated for endocrinopathies. Biochemical tests include serum levels of luteinizing hormone, follicle stimulating hormone, testosterone, estradiol, prolactin, dihydroepiandrosterone, and human chorionic gonadotropin [7, 10].

Pseudogynaecomastia is common in obese men and consists of lipomastia alone, without glandular proliferation. Palpation and ultrasonography could be helpful in confirmation [3, 7, 8]. Ultrasound and mammography can further help in confirming gynaecomastia and also in ruling out malignancy, specifically if a BRCA-2 mutation or family history of breast cancer is present. Breast biopsy rate is known to be further reduced with ultrasonography and is known

to have a high negative predictive value for malignancy. However, mammography should be the primary modality when imaging is indicated as it can detect calcifications, particularly micro-calcifications, in men of age, with cancer possibility. If patient does not agree, ultrasonography should be done [12-15].

Histological changes in gynaecomastia in early stages would be of ductal epithelial hyperplasia. Late stages show stromal fibrosis with increase in number of ducts [6]. For pubertal gynaecomastia, reassurance along with follow-up is the best approach. For slight gynaecomastia, without any underlying disease – weight reduction, reassurance and follow-up every 3-6 months is recommended. Medical therapy is mostly useful during acute proliferative phase. Pharmacological therapy, involves correcting androgen estrogen imbalance by blocking estrogen effect on breast or administration of androgen or inhibiting estrogen production [7, 9, 10, 12].

Surgical options are the mainstay of treatment, which include liposuction, open resection and resection with skin reduction. It could be suction assisted lipectomy or ultrasound assisted liposuction. Best results are obtained by combining liposuction and mammary adenectomy. The method should restore the male chest shape and address skin excess, create symmetry between the two halves of the chest with short inconspicuous scars. Complications during surgical management involve hematoma commonly. Other complications rarely seen are seroma, over-resection with saucer type deformity, under-resection, unappealing scarring, and infections [7, 9, 10].

Recently, radiofrequency ablation and laser assisted liposuction has been studied in management of gynaecomastia. Radiofrequency ablation has been shown to be superior to ultrasonic and power assisted liposuction with less visible scarring, decreased downtime and optimal aesthetic appearance [16]. Psychological care is essential due to pervasive effect of gynaecomastia. It affects the psychosocial functioning with feeling of shame, low self-esteem, dissatisfaction with own body, sense of loss of masculinity etc. It is also one of the common reason for patients withdrawing from prostate cancer during hormonal treatment [3, 10].

Gynaecomastia present for more than two years is unlikely to regress spontaneously or with medical treatment due to the tissue becoming irreversibly fibrotic. In these cases, surgery remains the mainstay of treatment. Few complications are known to occur during surgery, however with careful planning and proper patient selection, it can be made more favourable and yield satisfaction to both patient and surgeon [9].

Few studies have claimed a future increased risk of testicular and breast cancer in patients with gynaecomastia. Histopathological examination is

mostly non-significant as seen in our study and also in other studies. Rarely ductal carcinoma in situ, atypical ductal hyperplasia or infiltrating ductal carcinoma can be seen [7, 17].

Surgery is gold standard therapy for symptomatic patients. In our study excision surgery was done in 17/25 cases. In a study by Mohan *et al.*, surgery was done in 29/53 cases. Similar studies have followed up surgery as the primary therapy with no complications and good results. Medications were used predominantly in few studies with good effects, whereas in our study surgical line of management was predominant followed by reassurance [9, 11].

CONCLUSION

Life style guidance, reassurance, medical and surgical corrections are various options available in treatment of gynaecomastia. Proper clinical workup with appropriate investigations to confirm gynaecomastia and rule out cancer is necessary. Treatment should be tailored according to condition and done at earliest to avoid psycho-social stigma to the patient and help him lead a satisfied, functioning life.

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