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Gynaecomastia A Hidden Cause - Case Report

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Abstract:
When estrogens and androgens interact to stimulate breast tissue and inhibit it, the result is a feminized male breast known as gynecomastia, or the growth of fibroglandular tissue in the male breast. When it comes to males, physiological factors and certain medical disorders are more frequently the cause of gynecomastia.
Gynecomastia is identified by palpably thick and mobile subareolar tissue in the male breast. A secondary cause of hypertension or an adverse pharmacological reaction to an antihypertensive medication may be indicated by breast enlargement in men.
The secondary causes of hypertension linked to gynecomastia include hyperthyroidism, chronic renal failure, adrenal hyperplasia or tumors, amphetamine, cyclosporine, and anabolic drugs. Older medications linked to gynecomastia include methyldopa, spironolactone, and serpine; more frequently, calcium antagonists, angiotensin-converting enzyme inhibitors, and α1 blockers may also be connected to this discovery.Very little data has been found thus far to support the theory that angiotensin receptor blockers are the main cause of gynecomastia. Nonetheless, our research provides additional proof linking angiotensin receptor blocker Treatment aims to induce gynecomatia, which eliminates the underlying cause. This is mainly accomplished via complete excision and breast tissue biopsy.

Keywords: Gynecomastia; Male breast tissue,antihypertensives,secondary cause,angiotensin receptor blocker.

Introduction:

Gynecomastia is indeed a common condition characterized by the abnormal enlargement of male breast tissue. It can occur at various life stages, including infancy, puberty, and later in life, often due to hormonal changes. [1-3]
The condition typically arises from an imbalance between estrogen and testosterone levels, leading to the proliferation of glandular breast tissue. Various factors can contribute to this imbalance, including hormonal disorders, certain medications, and lifestyle choices [4]. It's essential to identify the underlying cause to determine the appropriate treatment, which may include medication, lifestyle changes, or surgery in more severe cases.

Gynecomastia is regarded as a rare side effect of several antihypertensive medications, affecting less than 1% of users. In many cases, the occurrence is comparable to that seen with a placebo. Nonetheless, spironolactone is one antihypertensive drug that is commonly associated with gynecomastia.
Gynecomastia has been connected to several drug treatments, such as reserpine and spironolactone, but it is not commonly observed with angiotensin receptor blocker (ARB) therapy.[5]

The pathophysiology behind the development of gynecomastia due to ARB usage is unknown.But could be due to hyperprolactinemia caused due to usage of ARBs [6].
Here is case report of a 73 year old elderly male presented to surgical Out patient department with bilateral gynecomastia , with no history suggestive of hormonal imbalance.

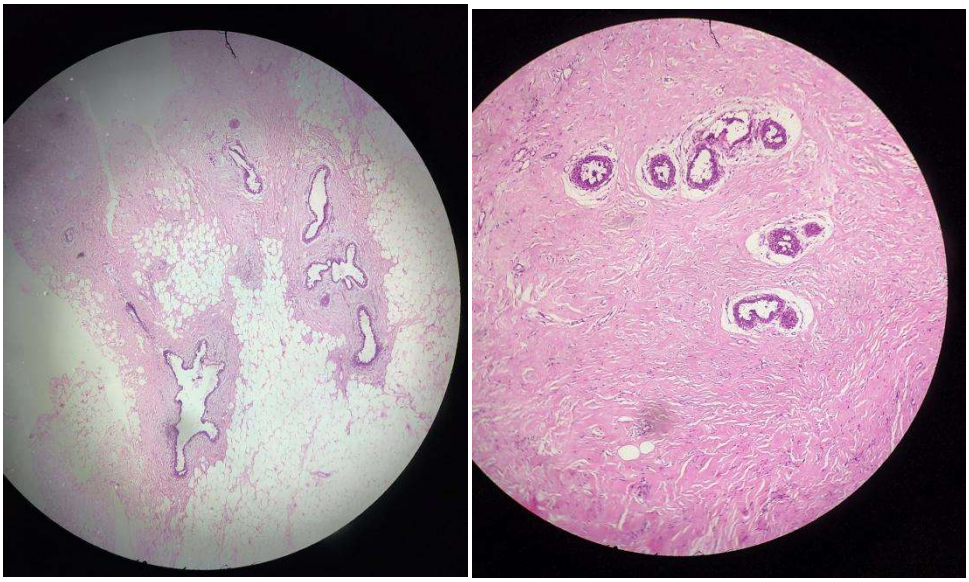
Case Presentation
A 73-year-old male with a 20-year history of diabetes managed with oral hypoglycemic agents and long-standing hypertension, now on angiotensin receptor blockers (telmisartan) for the past six months, visited the surgical outpatient department. He reported concerns about progressive bilateral breast enlargement over the last six months, accompanied by intermittent throbbing pain. He noted no changes in libido or morning erections, and reviews of other systems were unremarkable, including for immunocompromised conditions, hepatic or renal issues, alcohol consumption, chronic opioid use, or other medications. His vital signs were normal. Upon physical examination, he exhibited sensitive bilateral nipples with no palpable nodules or discharge (Figure 1), and the rest of the examination, including the testicular exam, was normal.

FIGURES :1 -Clinical presentation with bilateral breast enlargement of the elderly male;

Ultrasound of breasts done showed bilateral few ill defined irregular hypoechoic area in retro areolar region in right breast with minimal internal vascularity features of gynecomastia . The mammogram was difficult to perform due to the patient's lean body habitus. Lab results also showed normal free and total testosterone ,0.4 nml/l and 10nmol/l respectively , and raised prolactin level of 40 ng/ml . MRI brain showed sella and para sella regions were normal and few age related atrophic changes were present .

Hence, the patient was posted for excision and biopsy of bilateral gynecomastia under regional anaesthesia .intraoperative period were uneventful .
Postoperatively the wound was healthy and healing (Figure 2) with histopathological features consistent with gynaecomastia with fibrofatty tissue and duct with pseudoangiomatous stromal hyperplasia (PASH) .(Figure 3) . The patient was followed up for 1 year with no recurrence along with stoppage of ARB's.

FIGURES :2 -Post operative picture showing no breast enlargement, healthy and healing scar;



FIGURES :3 -Histopathological picture consistent with gynaecomastia with fibrofatty tissue and duct with pseudoangiomatous stromal hyperplasia (PASH)

Discussion:

Gynecomastia has fascinated scholars since ancient times, with historical statues illustrating the condition, such as the well-known depiction of the 18th Dynasty pharaoh Akhenaten[7].

The term "gynecomastia" was coined in the second century A.D. by the famous Roman physician and philosopher Galen. The Byzantine physician Paulus of Aegina described a surgical method that involved a "lunated" (moon-shaped) incision beneath the breast, which allowed for skin removal in cases of sagging breasts. Gynecomastia is a benign enlargement of male breast tissue due to the growth of glandular components and is relatively common, affecting 30-50% of healthy men[8,9]. It occurs as a result of an increased ratio of estrogen to androgen activity and can present as either bilateral or unilateral [10]. While there are many possible causes for gynecomastia, numerous cases, including the one previously described, remain idiopathic, with no identifiable cause.

In this case, the patient exhibited well-developed genitals, and there were no issues with the function of his reproductive organs, aside from his use of antihypertensive medications, specifically angiotensin receptor blockers. All relevant blood tests, including serum testosterone, serum beta-HCG, serum FSH, and chromosomal studies, were normal, with the exception of a slight increase in serum prolactin levels. Consequently, the most likely cause of his condition seems to be drug-induced gynecomastia, possibly related to the use of telmisartan. Evidence linking angiotensin receptor blockers (telmisartan) to elevated prolactin levels is limited [6] , but such an increase may contribute to the development of gynecomastia.

Conclusion:

Gynecomastia has captivated researchers since ancient times. Although various theories have been proposed, none offer a reliable explanation for bilateral cases of the condition, which continues to spark curiosity. In this report, we present a case of gynecomastia with an unknown etiology, likely linked to the use of the angiotensin receptor blocker telmisartan. Due to its rarity, we felt it important to document this case. Further research is needed to establish a clear connection between ARBs (telmisartan) and the development of gynecomastia.

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Conflict of interest

The authors declare that they have no conflict of interest.

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