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A CASE REPORT ON DRUG INDUCED GYNACOMASTIA

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Abstract:

Gynacomastia is a rare condition in males with a symptom of enlarged breast tissue size. It is generally caused by altered ratio of estrogens to androgens in the male individuals. A cause includes several diseases and nearly25% is associate with drugs. A mostly used drug that causes gynacomastia includes spironolactone, amlodepine, TCAs, and ketoconazole. It is a rare side effect. But it has a occurrence of 1% in amlodepine and 1.2% in spironolactone. Diagnosis is majorly done by presence of symptoms like increased breast tissue, and it should be differentiate with pseudo disease, and the increasing nature may be of one side or on both side of individuals. Presence of polactin secreting tumor may induce milk ejection from male breasts. Mostly it is resolved with in one to two months of discontinuation of suspected drug. Mastectomy is the only surgical procedure where the increased breast tissue is removed. Drugs like aromatase inhibitors, estrogen receptor modulators can also be used, but has no clinical practice in males.

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INTRODUCTION:

Gynacomastia is a rare endocrine disorder having an increased size of breast tissue in males [1]. Mostly it is caused by klinfonter syndrome, cancers, endocrine disorder, metabolic dysfunction, and some medicines [2].Sometimes it is also associated with diseased state. A study states that nearly 70% of adolescent boys are affected [4] and 75 among them are self resolved without any medication within a span of 2 years [3].

An ADR can be defined as a noxious or unintended reaction that occurs at a normal dose i.e., used for diagnosis, prevention or for a treatment. Gynacomastia is a result of altered estrogen and androgen ratio in males [4]. Estrogens act as a hormone in increasing the size of male breast tissue [5]. Most of the causes are unknown[6] bur drugs are a cause in 10-25% of patients with gynacomastia [7].

Table 1: List of some of the drugs that cause gynacomastia

Antiandrogens	Bicalutamide, flutamide, finasteride, dutasteride
Antihypertensive	Spironolactone
Antiretroviral	Protease inhibitors (saquinavir, indinavir, nelfinavir, ritonavir, lopinavir), reverse transcriptase inhibitors (stavudine, zidovudine, lamivudine)
Environmental exposure	Phenothrin (antiparasitical)
Exogenous hormones	Oestrogens, prednisone (male teenagers)
Gastrointestinal drugs	H2 histamine receptor blockers (cimetidine)
Antifungal	Ketoconazole (prolonged oral use)
Antihypertensive	Calcium channel blockers (amlodipine, diltiazem, felodipine, nifedipine, verapamil), diuretics (spironolactone).
Antipsychotic (first generation)	Haloperidol, olanzapine, paliperidone (high doses), risperidone (high doses), ziprasidone

Typical symptoms include breast enlargement with soft, subcutaneous chest palpated in soft fatty tissue [8] and may be on one side or both [6]. Individual with prolactin secreting tumor may have a symptom of milk secretion [4]. Patient may also feel anxious and stress [5].

Diagnosis of gynacomastia is generally a subjective. But a physician should rule out pseudogyancomastia may be of a fatty tissue[4]. Generally it is divided into 4 grades:

- Grade I: Minor enlargement, no skin excess
- Grade II: Moderate enlargement, no skin excess
- Grade III: Moderate enlargement, skin excess
- Grade IV: Marked enlargement, skin excess [9].

Treatment generally includes the use of aromatase inhibitors, estrogen receptor modulators [10] and May involves surgery like mastectomy [9].

Amlodepine is a calcium channel blocker used for treatment of hypertension. It causes gynacomastia in 0.1-1% of treated individuals [11]. The exact mechanism of gynacomastia is unclear in calcium antagonists [12]. Spironolactone induces gynecomastia by decreasing testosterone production, increasing peripheral conversion of testosterone to estradiol, and displacing estradiol from sex hormone-binding globulin [13]. The Boston Collaborative Drug Surveillance Program reported a 1.2% prevalence of gynecomastia among 164 hospitalized patients (20.8%) experiencing adverse events (out of 788) treated with spironolactone [14].

Here we present a case report on gynacomastia induced by amlodepine and spironolactone.

CASE REPORT;

A 39 years male patient was admitted in general surgery Dept. with chief complaints of swelling over right breast since 15 days, swelling with small in size before 2 months and gradually attained this size. He was a known hypertensive since 2 years under regular treatment with T. amlodepine 5mg od, T.

atorvastatin of 10mg od, T. pantop of 40mg od. At the time of diagnosis he had BP of 160/100 mmhg. Since 3 months he had complained of edema of legs. So he was treated with same medication along with T. lasix of 20mg and spironolactone of 25mg once daily. He was a mixed diet habitat, alcoholic and non smoker. Now he had BP of 130/90 mmhg, and all other vitals and lab findings were normal. He was diagnosed as drug induced gynacomastia and he was advised with mastectomy. After the day of surgery he was treated with in. ceftriaxone of 1gm bd, inj. Diclofenac of 75mg bd, inj. Rantac of 50mg bd. After 6 days he was treated with same medication and on seventh day he was discharged with T. cefixime of 200mg bd, tab. diclofenac of 50mg bd, and t. rantac of 150mg.

ADR ANALYSIS:

Casuality:
WHO-UMC: probable
Naranjos assessment: possible
Severity assessment: level 4(b) moderate.
Predicatability: type A reaction.
Preventability: moderately preventable.

CONCLUSION:

This case highlights that anti hypertensive treatment including calcium channel blockers, spironolactone may lead to rare effect of gynacomastia. Therefore, physicians should carefully observe patients and discontinue causative agents if any symptoms are observed. This case highlights the rare chances of occurrence of adverse reactions to the drugs, so a physician should monitor the individual throughout a therapy.

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