Case Report

Fibrocystic Change in the Male Breast: A Case Report and Review of Literature of a Rare Entity

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ABSTRACT

Fibrocystic change (FCC) is a common benign breast condition in women, but its occurrence in men is exceedingly rare. We present a case of a 30-year-old male with a 6-year history of a solitary left breast mass. Histopathological analysis revealed classical features of FCC. This case adds to the sparse global and regional literature and underscores the importance of recognizing rare benign male breast lesions to avoid overtreatment and misdiagnosis. A comprehensive review of the global, Sub-Saharan African, and Nigerian literature over the past 10 years is also presented.

Keywords: Benign Breast Disease, Fibrocystic Change, Histopathology. Male Breast,

INTRODUCTION

Fibrocystic change (FCC), a benign proliferative disorder of the breast, is one of the most common histological findings in women of reproductive age. It includes a spectrum of morphological changes such as cyst formation, apocrine metaplasia, fibrosis, and epithelial hyperplasia[1]. However, its occurrence in men is extraordinarily rare due to the lack of significant lobular development in the male breast, as a result of lower oestrogen stimulation[2]. Despite this, a few documented cases have emerged, warranting academic and clinical attention.

Male breast diseases represent less than 1% of all breast lesions globally[3]. FCC in males has been described only in isolated case reports or as incidental histopathological findings[4-5]. In Nigeria, data are particularly sparse. A retrospective histopathological review in Lagos over seven years identified FCC in only 2 out of 58 male breast biopsies[6]. Similar low incidences have been reported in Benin[7] and Port Harcourt[8]. In Sub-Saharan Africa, the incidence remains underreported due to diagnostic oversight and limited access to histopathology[24,25].

The pathogenesis of FCC in men is closely linked to hormonal imbalance, particularly elevated oestrogen-to-androgen ratios. Risk factors include: oestrogen therapy in prostate cancer or transgender patients[11], liver cirrhosis resulting in oestrogen buildup[12], testicular dysfunction, obesity, and adrenal tumours[13], medications such as

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spironolactone, cimetidine, and digitalis[14]

Histopathologically, FCC in males, though rare, demonstrates features similar to that in females: cystic dilatation, apocrine metaplasia, stromal fibrosis, and epithelial hyperplasia[15]. Immunohistochemistry may aid in distinguishing FCC from ductal carcinoma when atypical proliferative lesions are present[16,26].

Patients typically present with a palpable, sometimes painful, unilateral or bilateral breast lump. Other symptoms include nipple discharge and localized tenderness. These non-specific symptoms often mimic gynecomastia or carcinoma, thus emphasizing the necessity of histopathological confirmation[9,10,21].

CASE REPORT

A 30-year-old male patient presented with complaints of 6 years left breast mass. It was said to be painless with insidious onset and progressive. There was no history of similar complaints in the contra lateral breast and no history of discharge from the nipple. He did not give any history of trauma or fever.

General physical examination was unremarkable. Local examination of the breast showed slight fullness in the lower inner guardant of the left breast and the nipple areola complex was normal. Palpitation revealed a 2.5x2.5cm solitary, ovoid shape, soft to firm swelling in the lower inner breast quadrant. No regional lymphadenopathy was seen and the contra lateral breast was normal. Secondary sexual characters were well defined and of male pattern. Examination of the genitalia was normal and both testes symmetrical, well developed and of normal volume. There were no stigmata of chromic lever disease or occult malignancy.

A presumptive diagnosis of gynecomastia was made. Routine investigations done were within normal limits. The patient was planned and had excision of the lesion under general anaesthesia. The lesion was well circumscribed and easily dissected from surrounding normal breast tissue. The post-operative period was uneventful.

Surgical pathology of the mass grossly revealed breast tissue with densely collagenous stroma. In the stroma were seen dilated ducts lined by double layer of epithelial cells, inner-cuboidal and outer myoepithelial cells, (Figure 1). In a focus was seen a dilated cystic duct that was lined by an attenuated epithelium (Figure 2).

A histopathological diagnosis of Fibrocystic Change of the Left Breast was made.

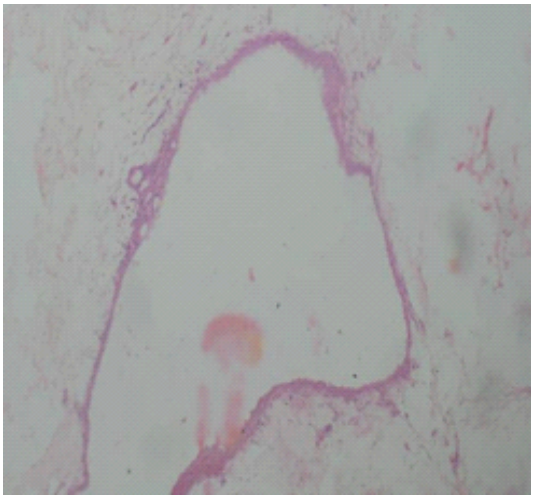

Figure 1 (X40, H&E).

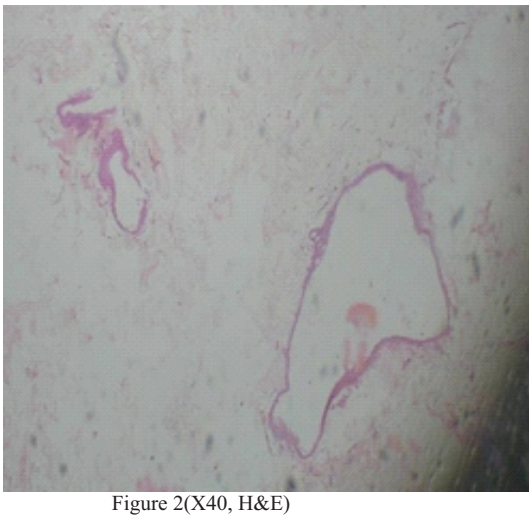

Figure 2(X40, H&E)

In the stroma were seen dilated ducts lined by double layer of epithelial cells, inner-cuboidal and outer myoepithelial cells, (Figure 1). In a focus was seen a dilated cystic duct that was lined by an attenuated epithelium (Figure 2).

DISCUSSION

Fibrocystic change (FCC) is widely recognized as a

common benign condition in the female breast, but its occurrence in males is exceedingly rare due to the absence of terminal duct lobular units (TDLUs) in the male breast[15]. This rarity makes FCC in men a diagnostic curiosity, often confused with more common entities like gynecomastia. Histopathologically, FCC encompasses cyst formation, apocrine metaplasia, stromal fibrosis, and epithelial hyperplasia, mimicking proliferative lesions[8].

International literature on male FCC is sparse but gradually expanding. Park et al. in a 2018 U.S.-based case series described five male patients with histologically confirmed FCC, all of whom had histories of prolonged oestrogen therapy[17]. Similarly, Sharma et al. in India noted FCC-like changes in males undergoing surgery for gynecomastia, attributing the changes to elevated oestrogen levels[18]. Neuberger et al. in Germany identified rare FCC in excised gynecomastia tissues, reinforcing the hormonal etiology[19]. Senger and Kanthan also underscored the importance of differentiating FCC from atypical proliferative lesions using careful histopathological review[23].

In Sub-Saharan Africa, published reports remain few. A Ghanaian autopsy study by Naaeder et al. noted FCC-like changes in male cadavers, suggesting it may be underdiagnosed clinically[20]. In Nigeria, Olu-Eddo and Omoti reported a single case of FCC among 74 male breast biopsies over five years[7], while Eze and Nwosu documented a rare case of FCC coexisting with gynecomastia[8]. Similarly, Mohammed and Edino found FCC in 1 of 38 male breast specimens during a retrospective review in Northern Nigeria[24].

Other Nigerian data include a Lagos study by Nwana et al., which identified FCC in 2 of 58 male breast lesions[6]. In Port Harcourt, Eze et al. emphasized the clinical and radiologic overlap between gynecomastia and FCC, reinforcing the role of histological evaluation[8]. A decade-long review by Ekanem and Akang in Ibadan revealed just one case of FCC, further underlining its rarity in Nigerian series[27].

The hormonal hypothesis remains the most accepted etiological explanation, with exogenous oestrogen therapy—commonly administered during gender-affirming treatment or prostate cancer therapy—strongly associated with FCC in men[17,22]. Imaging techniques such as mammography and ultrasound often struggle to differentiate FCC from gynecomastia or malignancy, especially in resource-limited settings. Histology thus remains the gold standard for diagnosis[9,16,20,24]. Although the Breast Imaging Reporting and Data System (BI-RADS) was developed for female breast pathology, it remains a useful adjunct in male breast radiologic assessment[28].

CONCLUSION

Although extremely rare, fibrocystic change in the male breast is a distinct pathological entity with significant clinical implications. Hormonal imbalance, especially due to exogenous oestrogen, is the most consistent etiological factor. Given the diagnostic overlap with gynecomastia and the nonspecific radiological features, histopathological confirmation is crucial. Greater clinical awareness and documentation are essential to prevent misdiagnosis and ensure appropriate management, particularly in resource-constrained regions.

Recommendations

Inclusion of fibrocystic change (FCC) should be considered in the differential diagnosis of male breast lumps. Also, routine histopathological examination of all male breast lesions should be made essential. Also, male patients with breast lump should be examined for underlying hormonal imbalances or oestrogen exposure. Furthermore more efforts should be made to encourage case reporting to expand literature and awareness and Improvement in pathology services in low-resource settings. And in addition, efforts should be made to promote further research to determine the prevalence of FCC in males, especially in Nigerian and Sub-Saharan African and studies should prioritize better documentation to improve recognition and management of this condition

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the

patient has given consent for the use of his images and other clinical information to be reported in a journal. The patient understood that his name and initials will not be published and due efforts will be made to conceal his identity, but anonymity cannot be guaranteed.

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