

peer reviewed **CASE REPORT****Palpable breast lumps presenting as cystic lesions****Xolani Magoda** 2008 3rd year diagnostic radiography student

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Abstract

This case report describes a 42 year old female with bilateral breast cysts and the possible cause being that of fibrocystic disease [1]. The aetiology, epidemiology, pathophysiology, and treatment of patients diagnosed with fibrocystic disease of the breast are discussed as well as radiological appearances on ultrasound images and mammography.

Keywords

Fibrocysts, aspiration, benign fibroadenoma, gynaecomastia.

Case report

A 42 year old female patient was referred from a community health care centre to a breast clinic at an academic hospital. On clinical examination she presented with lumps and thickening of the left breast. She had a previous medical history of undergoing a 25 ml fine needle aspiration cytology (FNAC); straw colored fluid was aspirated from her right breast one month ago. She had no dependants. It is protocol to refer patients with any of the above clinical features for a mammogram of both breasts for comparison. Her clinicians suspected a benign fibroadenoma.

A mammogram confirmed that she was suffering from fibrocystic diseases of both breasts shown in Figure 1. Fibrocystic diseases are caused by an abnormality of the

hormones acting on breast tissue resulting in cystic developments of both breasts [1]. The mammogram of the left breast demonstrated the cystic lesion as being radiodense with hyperdense regions on fibro-glandular breasts with prominence of the fatty tissues. No speculated, ill-defined or calcified lesions, which resemble a malignancy, were noted (Figure 1). The sonogram of the left breast showed a large well defined, soft and flat cyst that measured 62mm diameter in the medial aspect of the breast. Smaller cysts (1 cm) were noted but there was no evidence of solid masses and calcifications (Figure 2).

The patient was advised by her oncologist to have hormone replacement therapy (HRT) for a three month period. After the recommended treatment she had another ultra-

sound scan that showed that the cyst on the left breast had gradually shrunk by responding to the prescribed treatment (Figure 3).

Discussion

A cyst is a sac with a distinct connective tissue wall, containing fluid or other material [2]. Cysts on mammography appear as round or oval densities with well-delineated contours; their radio visibility depends on their contrast with the surrounding opacity of the breast. Due to this reason small cysts are often not detectable and gross cysts are not always visible, even in radio-translucent breasts. It was difficult to detect the cysts of this patient radiographically due to her breast densities [3]. A fibrocystic disease of the breast is classified as a neoplastic disease; it is an overgrowth of the fibrous tissue or cystic hyperplasia of the breast [1]. This is the most common disorder of the female breast and occurs in approximately 50% of postmenopausal women and can be idiopathic [1,4]. Cancer of the breast arises in the epithelium therefore an investigation of the mammary epithelium is a priority [5]. There are many causes and risk factors associated with this disorder. Women who start menses early, for example, before 12 years of age, or have late onset of menopause, namely after age 55, are at a higher risk of developing this disease. Women who have never had children or who had them only after the age of 30 years have an increased risk. Some studies report obesity as a risk factor of fibrocystic breast and breast cancer, possibly associated with higher levels of estrogen production in obese women and lack of exercise [3,4]. The disease can occur in the rudimentary breast tissue of the male, resulting in enlargement of the breast; a disorder called gynaecomastia [6].

Fibrocystic disease may be unilateral but is usually bilateral, with variably sized cysts located throughout the breasts [1]. The most common sign or symptom associated with fibro-

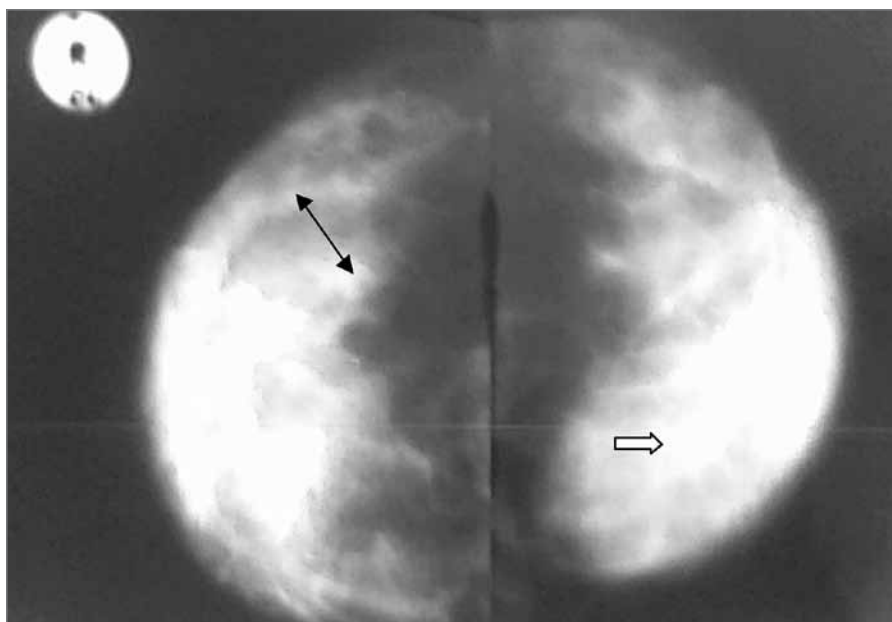


Figure 1: Craniocaudal mammography of both fibro-glandular breasts. The coin object indicates the right side. The black double headed arrow indicates the prominence of the fatty tissue with no ill-defined or spiculated borders on the right breast. The white arrow shows location of the cyst as a hyperdense region on the left breast.

cystic breasts is a mass (lump) or masses that increase in size and tenderness immediately preceding the onset of a menstrual period [1, 6]. The patient discussed in this case report did present with most of the clinical symptoms mentioned in the literature, such as bilateral variable sized cysts and palpable masses on both breasts.

Ultrasound is extremely useful as a follow-up to mammography to differentiate solid masses from cystic masses in patients with fibrocystic breasts as shown in Figure 3. Currently, ultrasound is not advocated as a screening modality for breast cancer because it cannot differentiate between a solid benign or malignant mass. The advantage of using ultrasound is that it is a non-ionizing imaging modality thus radiation dose to younger patients is reduced and it is a safe screening modality [7]. An additional ultrasound advantage being that it facilitates direct manual manipulation of the breast during the examination so that long sections of ducts can be straightened and imaged on a single scan. Only three physical means allow relatively valuable investigations of the breast: mammography, magnetic resonance imaging, and ultrasound. Each of these modalities shows specific insufficiencies of both epithelial and connective tissue, directly and distinctly in sections with good contrast resolution [3]. Large cysts are commonly aspirated for cytology evaluation of the fluid. If an aspiration is unsuccessful surgical biopsy is often performed. Although controversy exists about the correlation of fibrocystic breasts and an increased incidence of breast cancer, it is well known that a fibrocystic condition may mask a coexistent cancer [1]. Available treatment is the use of HRT but it is stated in the literature that fine needle aspiration cytology (FNAC) is a form of treatment during the diagnosis [5]. In severe cases surgery, radiation, chemotherapy, or a combination of these may then be recommended, not only for treatment, but also to help determine the stage of disease because staging is important to help guide future treatment and follow-up [8].

Conclusion

Fibrocystic breast diseases in this case report did not mimic any malignancy. The disease was correctly diagnosed, managed and an appropriate treatment was implemented. The patient has a very good prognosis after the HRT treatment as the cysts have vanished and no cancer was detected. Regular screening mammograms are encouraged for all women for early detection of breast changes that may be cancerous. Women need to be vigilant when changes occur in their breasts and seek medical help.

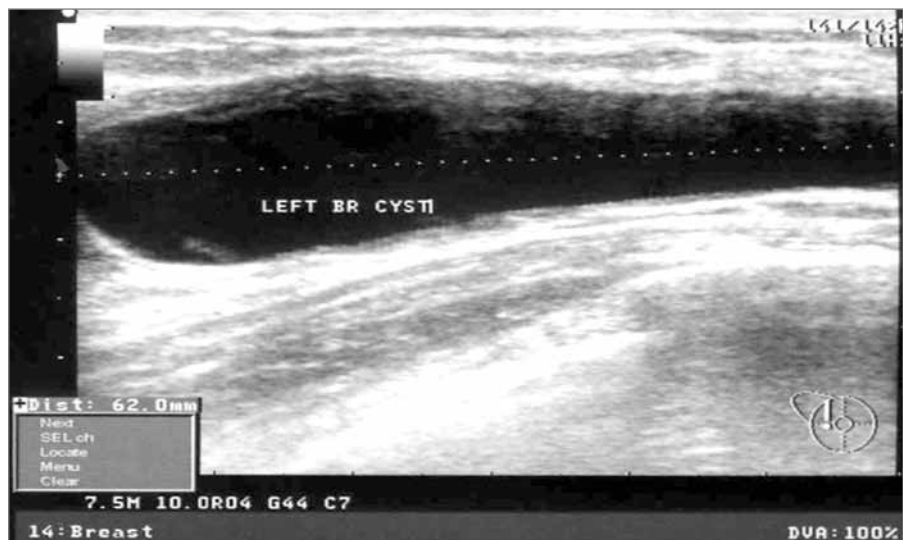


Figure 2: Longitudinal view of the left breast. Double headed white arrows shows diameter of the large, soft, flat and well defined cysts. The single headed white arrow measured a 62mm diameter of the same cyst of the left breast with no solid masses within it.

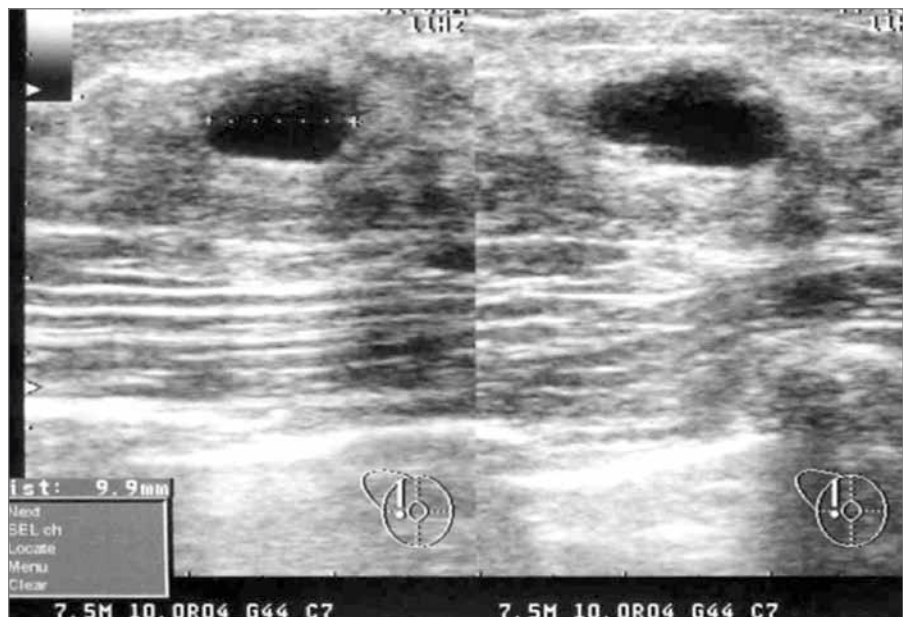


Figure 3: Transverse view of the left breast. The white arrow shows the diameter of the cyst and the black arrow points the anterior border of the cyst, this image was taken three months after the patient was subject to the HRT treatment and shows that the cyst shrunk remarkably.

References

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