Open Access Journal of Surgery
ISSN: 2476-1346

Juniper Publishers
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Case Report
Volume 7 Issue 1 - November 2017
DOI: 10.19080/OAJS.2017.07.555701

Open Access J Surg

Case Report: 31year Old Unmarried Female Patient with Left Breast Swelling

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Submission: October 30, 2017; **Published:** November 16, 2017

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Abstract

A lump in the breast is reason of great concern. High frequency, high-resolution USG helps in its detection and evaluation. Breast cysts are a relatively common cause of a breast lump in perimenopausal women, and usually causing unexplained pain or discomfort and non-tender or slightly tender on palpation. They are a benign (BIRADS II) entity.

Keywords: Breast ultrasound; Doppler; Breast cyst; Acoustic enhancement; Debris; Soft tissue component; Calcification; Breast mass; ACR BIRADS-US criteria

Introduction

(Figure 1) Case Detail and Cytology Report from Cerner

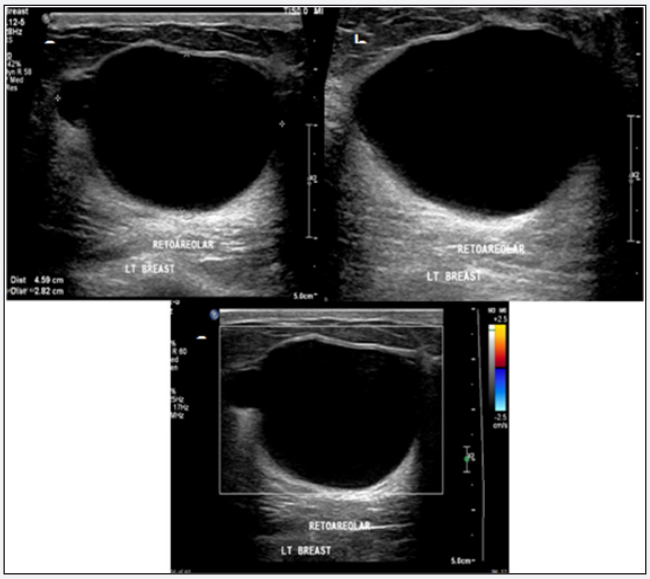

Figure 1: BREAST US: Left breast US reveal well defined slightly lobulated anechoic lesion at retro areolar region measures about 4.59 x 2.8cm with thin wall and through transmission (posterior acoustic enhancement). (Image a & b) with no blood flow in color Doppler imaging (Image #c). No echogenic debris. No internal solid component. No other solid or cystic mass in left breast. No mass in right breast. No enlarged size significant bilateral axillary lymph nodes.

a. Chief Complaint: New consultation for left breast swelling. Complain of swelling left breast for last two years. Now the size is increasing that is why she has consulted Breast Physician.No comorbidities. No other breast problems in the past. No family history of breast or ovarian cancers. Patient is Single Regular periods and her age at menarche 13years. No hormonal intake. No Known Allergies.

b. Physical Exam

Observations & Measurements

Temperature: 36.2 °C (Oral),

Respiratory Rate: 20,

Blood Pressure: 134/80,

Height: 148 cm

Weight: 55 kg

BMI: 25.11

On examination 5 x 5 cm left breast firm smooth mobile lump mostly retro areolar from 12 to 9:00 o' clock position. No axillary lymph nodes palpable bilaterally, Right breast clear Assessment

Patient sent for Ultrasound BREAST

a. US REPORT: Large breast simple cyst.

b. Treatment plan: Bed side aspiration done.

15cc of straw colored clean cyst fluid aspirated and sent for cytology. Lump disappeared immediately.

To be seen after 2 weeks for cytology results, then for US follow up

Cytopathology Non-Gyn/FNA Request

Clinical Information

Clinical Data: Left breast large cyst.

Previous Cytology/Biopsy: No

A. Specimen Source: Aspiration of left breast cyst

B. Macroscopic Description: Specimen labeled as left breast aspirate, as indicated on both request and container, consist of a 3 mL yellow turbid fluid.

C. Slides Generated: Fixed slides: 3 Air dried slides: 1 Cell Block Slides: 0.

D. Microscopic Description: Some clusters of apocrine cells with some foamy macrophages and few ductal cells red blood cells.

E. Diagnosis: Aspiration of left breast cyst: Apocrine cyst.

Discussion

Breast cysts are the commonest cause of breast lumps in women between 35 and 50 years of age [1,2]. A cyst occurs when fluid accumulates due to obstruction of the extralobular terminal ducts, either due to fibrosis or because of intraductal epithelial proliferation. A cyst is seen on USG as a well-defined, round or oval, anechoic structure with a thin wall and smaller cyst are compressible and larger cyst are usually mildly compressible and color Doppler demonstrates no flow (shown in this case).

A. Radiographic features

a. Ultrasound: Ultrasound evaluation of breast cysts is the modality of choice. Obstruction of the ducts, often appearing as the result of epithelial hyperplastic processes or the stromal fibrosis, or both processes lead to the formation of cysts, impair the drainage of the terminal ducts of the lobules. Sonographic features of a simple cyst include:

i. Typical cyst:

I. Anechoic signal (no internal echoes)

II. smooth walls

III. well-circumscribed shape

IV. enhanced through transmission: posterior acoustic enhancement

V. sharp anterior and posterior borders

VI. reverberation artifact

ii. Atypical cyst:

I. with all the features of typical cysts with

II. More or less subtle echoes within the anechoic cyst

III. Proliferations

IV. Calcifications

In almost 70% of all fibrocystic change, the cysts represent the predominant finding.

According to size, the cysts are divided into two categories:

a. Macro cysts: ranging from 1-6 cm in diameter that could be simple cysts or lobulated multilocular lesions

b. Microcysts: <3 mm in diameter

I. Cysts can be:

a. Single lesion

b. Multiple lesions

Cyst should not increase in size in post-menopausal women. When a cyst contains internal low level echoes and absence of some of the typical features of a simple cyst, it is named as complicated breast cyst. Cysts are usually transonic with posterior acoustic enhancement in all cases. Irregular internal margins or lesions that are not smoothly circumscribed or defined are not simple cysts.

Treatment and prognosis

Imaging findings of typical simple breast cyst, then no further workup is necessary. Symptomatic large cysts may require aspiration [3]. If such a cyst is aspirated cytological analysis is usually not required unless it contains bloody material. Simple cyst aspiration showing straw colored fluid, which can be discarded. Follow-up post aspiration ultrasound confirms the complete non-visualization of cyst with no residual cyst/mass will indicate hemostasis. Complications from aspiration are virtually unknown but include bleeding and theoretically infection. Aspiration of cysts can be safely performed without stopping aspirin therapy. BIRADS classification is proposed by American College of Radiology, last updated in November 2015, and is widely used classification system at the time of writing this article (July 2016) [4,5].

Classification

The latest version classifies lesions into six categories:

A. BIRADS 0:

a) + Incomplete, further imaging or information is required, e.g. compression, magnification, special mammographic views, ultrasound

b) + This is also used when requesting previous images not available at the time of reading

c) BIRADS I: negative, symmetrical and no masses, architectural disturbances or suspicious calcifications present

How to cite this article: Sushila B L, Mehak R. Case Report: 31year Old Unmarried Female Patient with Left Breast Swelling. Open Access J Surg. 2017; 7(1): 555701. DOI:10.19080/OAJS.2017.07.555701.

B. BIRADS II: benign findings, interpreter may wish to describe a benign-appearing finding

a) + calcified fibroadenomas

b) + multiple secretory calcifications

c) + fat-containing lesions such as:

d) + oil cysts

e) + breast lipomas

f) + fibroadenolipoma or mixed density hamartomas

g) + galactoceles

h) + simple breast cysts

i) + these all should have characteristic appearances, and may be labeled with confidence; the interpreter might wish to describe intra-mammary lymph nodes, implants, etc. while still concluding that there is no mammographic evidence suggesting malignancy

C. BIRADS III: probably benign, short interval follow-up suggested

D. BIRADS IV: suspicious abnormality

a) + there is a mammographic appearance which is suspicious for malignancy

b) + biopsy should be considered for such a lesion

c) + these can be further divided as

i. BIRADS IVa: low level of suspicion for malignancy

ii. BIRADS IVb: intermediate suspicion for malignancy

iii. BIRADS IVc: moderate suspicion for malignancy

iv. BIRADS V: there is a mammographic appearance which is highly suggestive of malignancy, action should be taken

v. BIRADS VI: known biopsy proven malignancy

The vast majority of screening mammograms fall into BIRADS I or II.

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