INTERNATIONAL JOURNAL OF STUDENTS' RESEARCH
Volume 4 Issue 2 Year 2014 www.ijsronline.com

CASE REPORT

Giant fibroadenoma of the breast mimicking phyllodes tumor in an adult female: emphasizing the role of cytology in the diagnosis

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ABSTRACT

Giant fibroadenoma is an uncommon variant of fibroadenoma with an overall incidence of <4%. It is common in adolescent age group and is seldom seen in elderly. Often surgeons might encounter a diagnostic dilemma between phyllodes tumor (PT) of the breast and a giant fibroadenoma. We herein report a similar case of a middle-aged woman with an unusually large fibroadenoma of the breast mimicking a PT and emphasize the role of fine-needle aspiration cytology in differentiation of these two different breast entity.

Key words: Cytology, giant fibroadenoma, lump, phyllodes tumor

Introduction

Fibroadenoma is a benign breast tumor with an abnormal growth of glandular and fibrous tissue. It is commonly encountered in women of reproductive age group. On rare occasions, a fibroadenoma can demonstrate a rapid and massive growth (>5 cm) resulting in what is known as giant fibroadenomas. Histologically, a giant fibroadenoma is more cellular than its usual counterpart. It is clinically relevant to differentiate a giant fibroadenoma from virginal hypertrophy in its asymmetrical, early form and phyllodes tumor (PT), as the management, and the prognosis of these tumors are entirely different [1-3]. We here in the report a rare case of a giant fibroadenoma in a 32-year-old Indian woman that mimicked as a PT of the breast. We also lay emphasis on the importance of fine needle aspiration cytology (FNAC) in demarcating between these tumoral entities.

Case Report

A 32-year-old woman presented with a painless lump on her left breast since last 6 months. There was no history of trauma. Her menstrual cycles were regular, and her family history was negative for breast cancer. Local examination demonstrated 18 × 12 × 6 cm sized lump extending from the left upper and inner quadrant to the left lower quadrant. It was firm in consistency, nontender, freely mobile within the breast tissue and free from the chest wall. There was no discoloration of the skin over the swelling and no discharge from the nipple. Ultrasonography of left breast was done, which showed large hypoechoic mass in upper and inner quadrant of the left breast. Mammography showed features suggestive of a benign tumor [Figure 1]. FNAC performed on the mass revealed hypercellularity with few clusters of monomorphic ductal epithelial cells on hemorrhagic background and lack of leaf-like stromal appearance. The cytolo-radiological and clinical findings favored the diagnosis of a giant fibroadenoma. In view of this, an excision biopsy was planned under general anesthesia. A semicircular incision was taken 8 cm above the nipple-areola complex. The giant, firm lump was excised from left breast that measured 15 × 8 cm [Figure 2]. A cut section of the lump showed few cystic spaces filled with serous fluid, the largest measuring 2 cm in diameter. Multiple, grayish white hard areas were found in between these cystic spaces. Histopathological diagnosis of the excised lump was consistent with giant fibroadenoma with extensive hyalinization. Postoperatively, period was uneventful. Patient was asymptomatic at followups.

Discussion

Fibroadenoma is a benign tumor composed of stromal and epithelial component. It has bi-modal presentation, of which 90% is seen in reproductive age group and 10% in postmenopausal age group [4]. With an unknown etiology, it is often thought to be due to an aberration in normal development of breast and involution. Pathophysiologically, fibroadenoma is of pericanalicular and intracanalicular types based on fibrous and adenomatous component [5]. Patient usually comes with a history of a painless lump in the breast, firm in consistency freely mobile, and with size >5 cm. It is critical for a surgeon to differentiate a giant fibroadenoma from cystosarcoma phyllodes. Even though, ultrasound of the breast, mammography and other imaging modalities like the magnetic resonance imaging (MRI) aid in its diagnosis and differentiation from PT, cytological evaluation is of utmost importance. It is cost-effective and more specific tool that aids in the differentiation. The lack of leaf-like structures and stromal cell atypia as determined from aspiration cytology differentiates giant fibroadenoma from PT, whereas the lack

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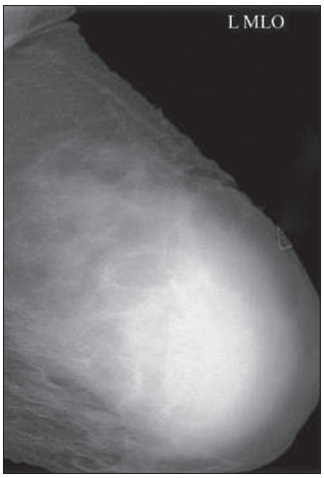

Figure 1 Mammography of left breast showing giant fibroadenoma

of mammary lobules distinguished fibroadenoma from the breast hamartoma and asymmetric breast hypertrophy. It is utmost necessary to have the distinction owing to the fact that both giant fibroadenoma and PT have different therapeutic approach [6]. Giant fibroadenoma appears as large hypoechoic mass that may have gentle lobulations on ultrasonography and as a smooth mass on MRI with enhancement with administration of gadalium-based contrast agents. Surgical treatment for giant fibroadenoma is excision and biopsy [7]. It should include normal breast tissue. Absolute indication for excision of a lump is when it is causing physical discomfort to the patient and for cosmetic appearance.

Conclusion

Giant fibroadenoma is a rare entity and therefore should be histologically differentiated from phyllodes and virginal hypertrophy in clinical practice by aspiration cytology.

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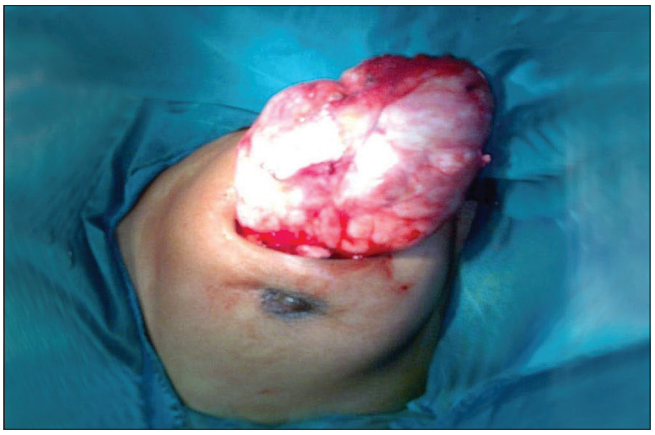

Figure 2 Intraoperative picture of giant fibroadenoma being removed with nipple sparing surgery

Authors' Contributions

BS, BBS and KS were involved in patient care and operated upon the patient. KS and SS participated in sequence alignment, drafting the manuscript and literature review. KS and PS helped in data acquisition. KS and SS made useful contributions in the revision of the manuscript. All authors read and approved the final manuscript.

Consent

The authors certify that a written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the editor-in-chief of this journal.

Competing Interests

Nil

Funding

Sources of funding: None

Please cite this paper as: Shah B, Shah BB, Sharma K, Sahu S, Singh P. Giant fibroadenoma of the breast mimicking phyllodes tumor in an adult female: emphasizing the role of cytology in the diagnosis. *Int J Stud Res* 2014;4(2):44-5.

Received: 20 May 2014, Accepted: 04 Aug 2014

Access this article online	
Quick Response Code:	Website: www.ijsronline.com
	DOI: 10.4103/2230-7095.149772