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IP Journal of Diagnostic Pathology and Oncology

Journal homepage: <https://www.jdpo.org/>

Case Report

Giant fibroadenoma and phyllodes tumour - A diagnostic conundrum

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ARTICLE INFO

Article history:

Received 30-01-2022

Accepted 23-03-2022

Available online 19-05-2022

Keywords:

Giant Fibroadenoma

Phyllodes

Diagnostic dilemma

ABSTRACT

Giant breast masses are of great concern as they have diagnostic as well as therapeutic challenges. Owing to the close morphological resemblance between giant fibroadenoma and Phyllodes tumor, here we are reporting a case of a young lady who was diagnosed with giant fibroadenoma clinically and by Fine Needle Aspiration Cytology (FNAC). Simple mastectomy was performed, and histopathology examination revealed a Giant Phyllodes. Thus, this report focuses on the rarity of the age of presentation, misleading clinical features and the diagnostic accuracy of FNAC compared to histopathology in differentiating these two close entities.

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1. Introduction

One of the most common problems in females, that are encountered routinely in day today practice, is a breast lesion. Among them, giant breast masses are quite interesting because of their rarity and unpredictable behavior. They usually give rise to a suspicion of malignancy owing to their rapid growth, associated skin congestion or ulceration and tendency to recur. A wide variety of breast conditions such as fibroadenoma, phyllodes tumor, virginal hypertrophy, lipoma, hamartoma, cyst, abscess and carcinoma can result in solitary or multiple giant masses. Giant fibroadenoma and phyllodes are two diseases of the breast which can be thought of differential diagnosis for huge breast lumps.¹

Fibroadenoma is the commonest solid benign lesion that can exist as a solitary or multiple masses in the breast with an abnormal growth of glandular and fibrous tissue.^{2,3} Fibroadenoma with size more than 5cm and /or weight of more than 500 grams are typically defined as giant fibroadenoma.⁴ Though usually encountered in

women usually before the age of 30,⁵ its occurrence in postmenopausal women especially those receiving estrogen replacement therapy has also been documented.⁶

Phyllodes tumours account for <0.5% of all the breast neoplasms.⁷ The median age for phylloides tumor is 45 years, with its spectra ranging from benign, indolent neoplasm to malignant tumors capable of distant metastasis. Phylloides resembles intracanalicular fibroadenoma at the benign end of the spectrum while the malignant tumor can be mistaken for primary breast sarcoma or sarcomatous carcinoma.⁸ However, the diagnosis of low grade phylloides tumor and its distinction from fibroadenoma on cytology is difficult due to overlapping features between two lesions.

Here we report a case of a Phylloides tumor in a 20 years old Indian female that clinically and cytologically mimicked giant fibroadenoma.

2. Case Report

A 20 years old female presented with a gradually progressing painless mass on her left breast for 4 years. There was no history of trauma, fever, anorexia or weight loss. On examination the swelling was firm to hard in

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consistency with the overlying skin being stretched with ulceration and nodular projection measuring (20 X 25) cm. The axillary lymph nodes were not palpable. Ultrasound report showed the presence of large heterogenous mass with cystic components involving mammary zone giving the impression of cystosarcoma phylloides.

Fine-needle aspiration cytology (FNAC) of the breast mass was performed. The high cellular smear showed presence of cohesive clusters, staghorn pattern of ductal epithelial cells with myoepithelial cells embedded in background having bare bipolar nuclei, few cystic macrophages and fibromyxoid stroma (Figures 1 and 2). These cytomorphological findings favored the diagnosis of Juvenile/cellular fibroadenoma. However, a histopathological examination was advised for confirmation of the diagnosis.

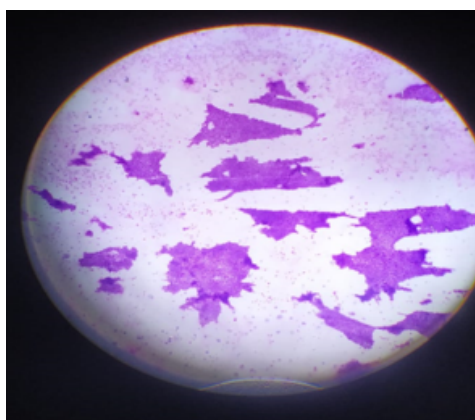


Fig. 1: Microscopic features on FNAC showing cellular smear with ductal cells (10X)

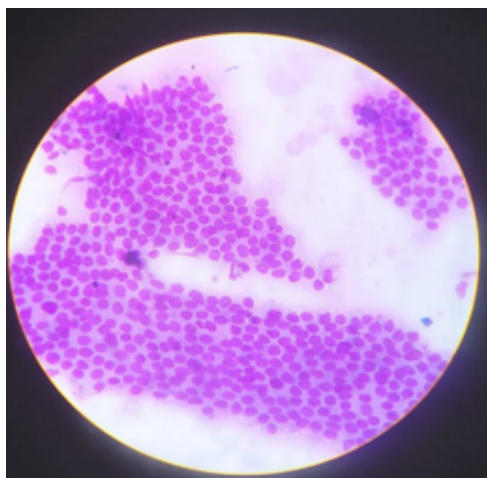


Fig. 2: Microscopic features on FNAC showing staghorn pattern of ductal cells with bland chromatin (40X)

The resected specimen was sent for histopathological examination. The skin covered breast specimen measured

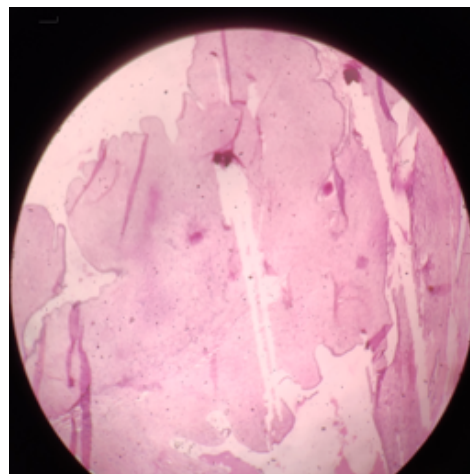


Fig. 3: Microscopic features (HPE) showing leaf like pattern (10X)

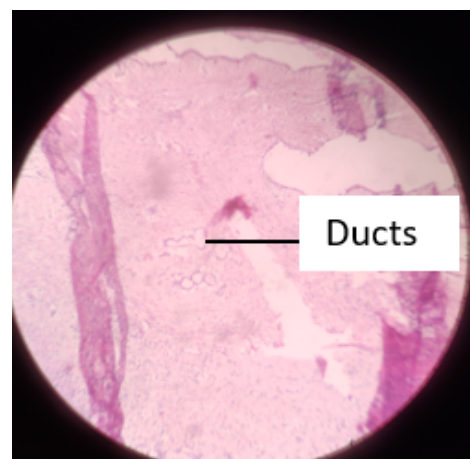


Fig. 4: Microscopic features (HPE) showing few benign ducts (4X)

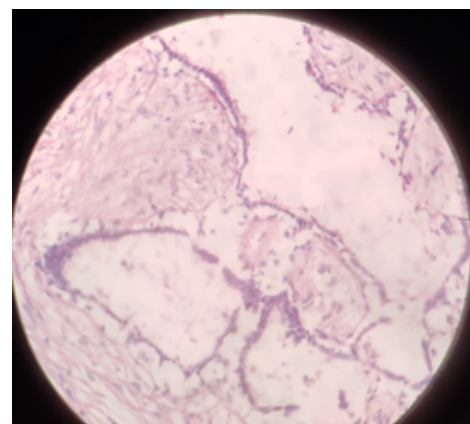


Fig. 5: Microscopic features (HPE) showing benign ducts lined by epithelial and myoepithelial cells (10X)

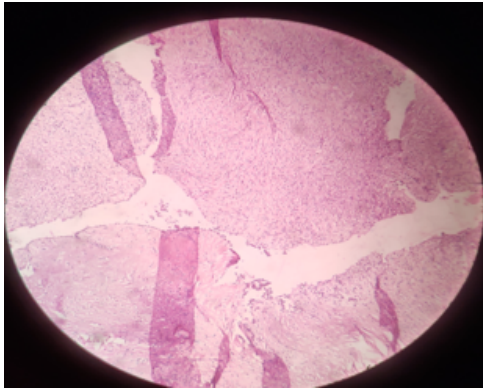


Fig. 6: Microscopic features (HPE) showing cellular stroma composed of benign spindle cells (10X)

(30 X 24 X 10) cm. Cut section showed bosselated whorled whitish mass with cleft like spaces and areas with cystic changes along with papillary projections.

Microscopically the tumor showed leaf like pattern (Figure 3) which was lined by epithelial cells and some ducts were lined by myoepithelial cells (Figures 4 and 5). There was presence of cellular stroma composed of spindle cells having bland nuclear morphology (Figure 6). The final histopathological features were found consistent with benign Phylloides tumor. Her post-operative follow up was uneventful.

3. Discussion

Giant fibroadenoma of the breast is a rare tumor which can occur at any age in a female and can have varied presentations, thereby creating a diagnostic dilemma. Presentations of fibroadenoma often masquerade as a Phylloides tumor. Thus, it is imperative to distinguish these pathological entities preoperatively as both the treatment modalities and the prognosis differ quite significantly in both of these conditions. Surgical excision is usually necessitated if the mass continues to grow or causes cosmetic concerns. While some lesion necessitates mastectomy, other lesion may only require local excision, aspiration, or conservative management.

The diagnosis of giant fibroadenoma is usually difficult initially as the physical examination of the breasts is not diagnostic because of the converging clinical presentation of large mass leading to asymmetrical breasts, skin changes or deviation of nipple areola complex. Imaging techniques like ultrasonography and mammography are the two basic modalities for routine imaging in the diagnosis of breast diseases whereas Magnetic Resonance Imaging (MRI) allows exact evaluation of size and location.

Varied histological features in these giant breast masses invites varying interpretations and diagnosis, which has often led to inappropriate and unnecessary radical

surgeries. In majority of cases, physical examination coupled with standard radiographic imaging have usually failed to pinpoint the exact diagnosis. There have been overlapping features of fibroadenomas and benign or borderline phylloides tumor making the diagnosis difficult on FNAC.⁹ However, it is always the histopathology which is considered to be the gold standard as it is not only required for the definite diagnosis but it also helps in differential diagnosis of giant breast masses, thereby allowing timely intervention and appropriate treatment in such cases.

Our discussion compares both the entities i.e. Fibroadenoma and Phylloides tumor in the view of age of presentation, size of the lump, clinical features, malignant potential, investigation and histopathology. Fibroadenoma is the most common benign tumor in adolescent female and are believed to be caused by an abnormal response to estrogen composed of stromal and epithelial components but its occurrence in post-menopausal women also noted.¹⁰ These are frequently bilateral and multiple. Patients usually present with a painless lump in the breast which is freely mobile. To call it a giant fibroadenoma, it should be more than 5cm in size. Fibroadenoma is encapsulated and benign in nature. These are well-circumscribed, rubbery grayish white nodules and often contain slit-like spaces. Pathophysiologically, fibroadenoma is of peri and intracanalicular type based on fibrous and adenomatous component components. On the other hand, phylloides tumors are biphasic fibroepithelial neoplasm with leaf like epithelial (phylloides) pattern and stromal proliferation. Phylloides can range from benign to malignant which is based on a combination of several histological features which includes stromal cellularity, mitotic activity, nuclear activity, nuclear atypia, tumor margin appearance. Average age is 40-50yrs. Clinical features may include- large tumor (upto 20cm) of breast can cause skin ulceration and pain.

Pre-operative cytological examination is necessary as it plays an important role in diagnosis of the lesion. However, sometimes the features of fibroadenoma and phylloides tumor may overlap, thereby making a confirmed diagnosis difficult on FNAC leading to under or aggressive management.

4. Conclusion

Detailed clinical examination, prudent radiological workup and careful preoperative cytology of all large breast lumps is important before deciding on appropriate surgical management. Nevertheless, it is histopathology which is the always the gold standard for a definite diagnosis in such cases.

5. Declaration of Patient Consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

6. Source of Funding

None.

7. Conflicts of Interest


There are no conflicts of interest

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Cite this article: Ghatak D, Mukherjee M, Roy AD. Giant fibroadenoma and phyllodes tumour - A diagnostic conundrum. *IP J Diagn Pathol Oncol* 2022;7(2):122-125.