

Giant Fibroadenoma Mimicking Phylloides Tumor In A Young Female: A Cytological Dilemma

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Citation

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Abstract

The field of oncology is studded with fascinating case reports of rarities and a case of giant fibroadenoma of the breast in young female child is one of such instances. The percentage so far detected is only 4% of the total fibroadenomas. We are reporting a rare case of giant fibroadenoma in a 12 year prepubertal female child. The provisional diagnosis of the patient was made on FNAC which was subsequently confirmed on histopathology.

INTRODUCTION

Fibroadenoma is the most common benign tumor of the female breast which implies a new growth comprising of both fibrous and glandular tissue. Some of these lesions represent hyperplasia which is polyclonal in origin e.g. increase incidence of developing fibroadenoma in women receiving cyclosporine after renal transplantation. The tumors are frequently multiple, may be bilateral and are likely to be due to drug related growth stimulation¹. Fibroadenomas are somewhat more common before 30 years of age, but can occur at any age group within reproductive period of life. They are associated with mild increase in risk of subsequent breast cancer especially when they are associated with secondary changes. Fibroadenomas occupy first place in terms of prevalence amongst benign breast disorders in adolescent and young females. Giant fibroadenomas which are clinically quite uncommon in young age comprise of a large mass which attain great size at time of presentation. The terms 'Juvenile fibroadenoma' and 'Giant fibroadenoma' have been used by different authors to describe separate lesions. However, it must be noted that the distinction between the two entities is extremely difficult as juvenile fibroadenomas may attain great size, while some authors consider them to be a variant

of giant fibroadenoma. Juvenile or Giant fibroadenoma is a rare form which must be recognized in terms of differential diagnosis from virginal hypertrophy in its asymmetrical early form and phylloides tumor (PT), the prognosis of which is entirely different^{2,3,4}. We report a rare case of giant fibroadenoma mimicking phylloides tumor of the breast in an young prepubertal female child.

A CASE REPORT

A 12 year female child presented with history of enlarged breast on right side since one year which was painless and gradually increasing to attain the size of 23 X 21 cm. On clinical examination, huge enlargement of right breast was found while the other breast was normal. It was firm to hard, irregular mass, not fixed to the underlying structures. There was no other significant systemic illness. All hematological and biochemical investigations were within normal limits. Ultrasonography (USG) breast showed a well circumscribed, homogenous mass with non infiltrating margins in right breast. Patient was subjected to fine needle aspiration cytology (FNAC) which revealed cellular smear comprising of clusters and sheets of epithelial cells revealing mild to moderate anisonucleosis (Fig.1). Few bipolar cells and bare nuclei were also noted. Numerous stromal fragments along with spindle shaped cells having elongated nuclei were seen

scattered in the smears (Fig.2). Based on the cytological and clinical findings a preliminary diagnosis of benign proliferative breast lesion closest to giant fibroadenoma was offered. However, a cytological possibility of benign phylloides tumor was not ruled out. Total excision of the mass preserving the nipple and areola was done (Fig.3, Fig.4). Post surgical histopathological examination of excised mass revealed to be giant fibroadenoma. Patient is asymptomatic for last six months and still on follow-up.

Figure 1

Figure 1: Cytology smear showing cluster of epithelial cells with mild pleomorphism (MGG : 400 X)

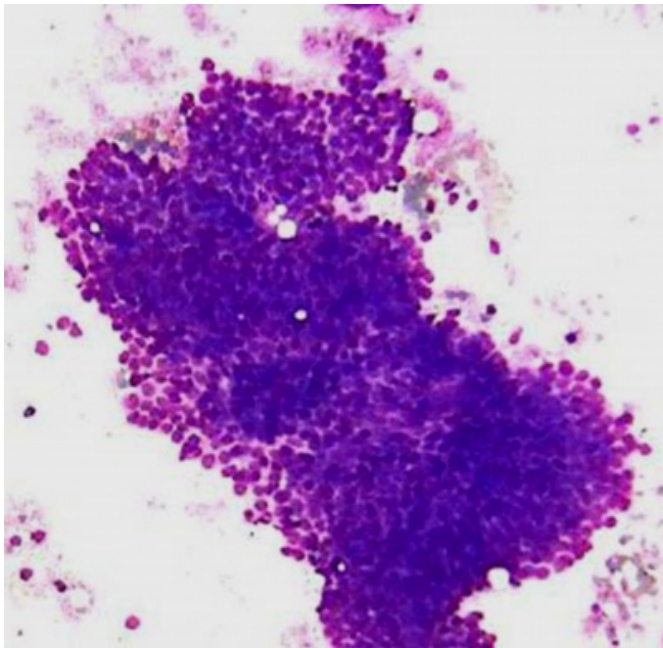


Figure 2

Figure 2: Cytology smear showing epithelial cells and stromal fragments with few Spindle shaped cells (MGG : 100 X)

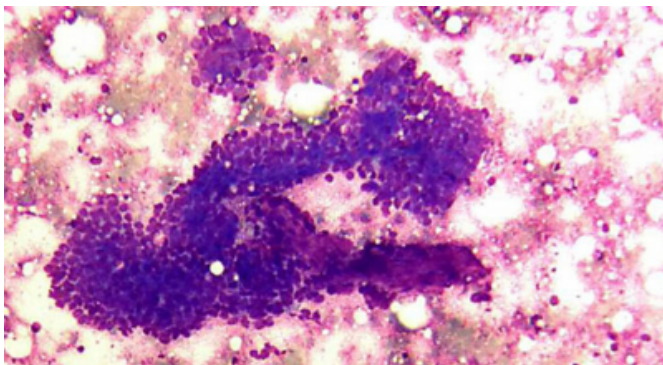


Figure 3

Figure 3: Mass showing well defined margins and thick capsule.



Figure 4

Figure 4: Excised grayish white mass



DISCUSSION

Breast fibroadenomas are the most common solid lesions found in young women. They typically present as firm, mobile, painless, easily palpable breast nodules. Juvenile or Giant fibroadenoma is an uncommon pathology usually presenting in adolescents, characterized by massive and rapid enlargement of an encapsulated mass. Giant fibroadenomas which are approximately 4% of all fibroadenomas present as rapidly growing unilateral macromastia without definable borders or texture differences. However, full evaluation may reveal that the larger breast contains the abnormality with hypoplastic breast on the smaller side. Juvenile\Giant Fibroadenomas can be at times difficult to distinguish from phylloides tumor (PT) and virginal hypertrophy. It is important to distinguish these two pathological entities preoperatively as they have different therapeutic approach. PT can occur in patients of

all ages with a peak incidence in the fourth and fifth decade of life. The rarity of the malignant tumors of breast in adolescents does not exclude such possibility as about 2% of all primary malignant breast lesions occur under the age of 25 years in the females⁵. However, it needs a careful diagnostic and clinical approach to rule out the possibility of malignancy. Cytological diagnosis of PT remains difficult with a significant overlap with fibroadenomas. The cytological smears of malignant PT is quite easy and well established but the differential diagnosis between fibroadenomas and benign or borderline phylloides tumor is overlapping at times. The presence of large tumor size, low epithelial stromal ratio, epithelial atypical, columnar stromal cells with visible cytoplasm and stromal giant cells favors a diagnosis of PT over fibroadenomas^{6, 7}.

Ultrasonography and mammography are the two basic techniques for routine imaging in the diagnosis of breast diseases whereas Magnetic Resonance Imaging (MRI) allows exact evaluation of size and location. The exact diagnosis is essential since fibroadenomas tend to persist and grow. However, physical examination and standard radiographic evaluations like mammograms and ultrasounds fail to pinpoint the diagnosis in many cases.

A wide variety of breast conditions such as lipoma, hamartoma, cyst, fibroadenoma, phylloides tumor, haematoma, abscess and carcinoma can result in solitary or multiple giant masses⁸. These conditions may appear similar on physical examination but their treatment varies accordingly. Giant fibroadenomas have to be differentiated from phylloides tumor by the lack of leaf-like structures and stromal cell atypia and from the breast hamartoma and asymmetric breast hypertrophy in girls by the lack of mammary lobules. Giant fibroadenoma should take its due place in the diagnostic algorithm of the breast tumors⁹.

Marginal excision of the encapsulated tumor which was

performed in this case is known to be the standard treatment in fibroadenomas. The clinical significance of different entities is essential as some of the lesions necessitate mastectomy but some lesions may require only local excision, aspiration or even conservative management.

To conclude, giant fibroadenoma of the breast in a young female child is the uncommon condition and a difficult diagnosis on aspiration cytology. In our case diagnosis was mainly established through aspiration cytology in a 12 year old child which subsequently confirmed on histopathology.

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