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Case Report

Giant juvenile Fibro adenoma of Bilateral Breasts: A Case Report

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Abstract: We all know that fibroadenoma is the most common benign tumour of the breast. It may take a very large shape to form giant fibroadenoma. This giant variant can be of two types, juvenile and adult. The Juvenile variant constitutes 4% of the total fibroadenomas. Whereas the incidence of giant form of juvenile fibroadenoma is 0.5% of all the fibroadenomas. However the bilateral giant juvenile fibroadenomas are extremely rare and only five cases have been documented in the literature till date. To the best of our knowledge, we are going to present the sixth case of bilateral giant juvenile fibroadenomas in an 18 year old girl. The diagnosis was made by fine-needle aspiration cytology which was confirmed on histopathology. In this paper, we are presenting this rare case for diagnosis and plan of management of this tumour and to emphasize that these tumours are completely benign in nature and can be treated with breast conserving surgery to provide a healthy physical and social life to the patient.
Keywords: Bilateral, Fibroadenoma, Giant, Juvenile

INTRODUCTION

Fibroadenoma is the most common benign tumour of the breast. It commonly affects the second decade of life. The Juvenile variant of fibroadenoma is quite a rare clinical entity and constitutes 4% of the total fibroadenomas and giant juvenile fibroadenoma constitutes only 0.5% of all fibroadenomas [1, 2]. Bilateral, giant, juvenile, fibroadenomas are extremely rare in peri pubertal girls. To the best of our knowledge, only five case reports are available in the literature [3-6]. The Stanford School of Medicine clearly set up both the criterias of juvenile and giant fibroadenoma [7]. Our case fulfilled both these conditions; therefore, it is a rare case of bilateral giant juvenile fibroadenomas in an 18 year old female child. The provisional diagnosis of the patient was made on fine-needle aspiration cytology which was subsequently confirmed on histopathology.

CASE REPORT

Our case was diagnosed at Nil Ratan Sircar Medical College, Kolkata. An 18-year-old post pubertal girl presented with bilateral, rapidly enlarging breast lumps for two months (Figure 1). There was history of dull ache in the breasts. No family history of breast tumour was associated. History of trauma, nipple discharge, fever and anorexia or weight loss was absent. On local examination we felt multiple non tender, large, firm, well-circumscribed, nodular masses in both the breasts. The overlying skin was tense and shiny with prominent superficial veins. The right breast lump measured 11 cm×10cm×8 cm, weight was about 1 kg and left breast lump measured 12 cm×10 cm×9 cm and the weight was nearly similar to that of the opposite breast. The lumps were not fixed to underlying structures. The nipples were retracted. There was no discharge from the nipples. Similar type of lumps also occupied the axilla of both sides. We thought it would be the enlarged lymph nodes and the provisional diagnosis was phylloides tumour. Routine hematological and biochemical examinations were within normal limits. Chest-X ray was normal. Ultrasonography was not carried out. The patient was subjected to fine-needle aspiration cytology (FNAC) of bilateral breast lumps which revealed hypercellular smears composed of many branching monolayer sheets of ductal along with myoepithelial cells. Bare bipolar cells also seen in the background. No atypical cells were found (Figure 2).

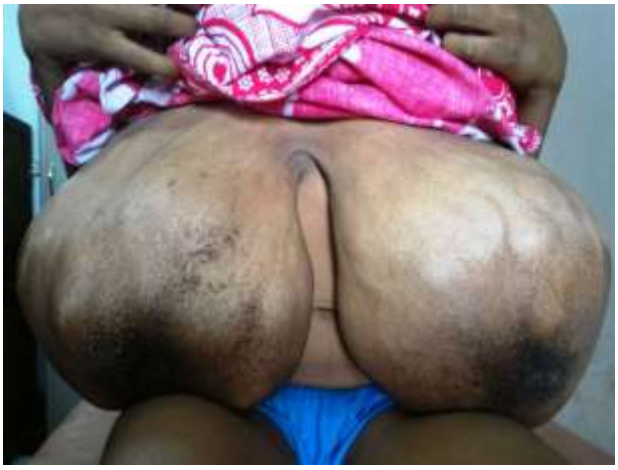

Fig 1: bilateral hugely enlarged breast lumps with surface nodularity. Overlying skin is stretched. Nipples are retracted.

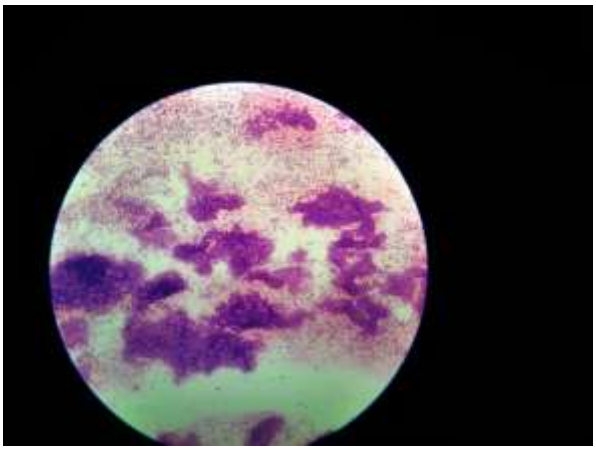

Fig 2: FNAC smear revealed hypercellular smears composed of many branching monolayer sheets of ductal along with myoepithelial cells. Bare bipolar cells also seen in the background. No atypical cell was found (Leishman Giemsa stain, 100X).

Based on the cytological findings, diagnosis of benign proliferative lesion without atypia suggestive of bilateral fibroadenomas was given. Subsequently the patient underwent trucut biosies of both breasts for confirmation. The two resected specimens were sent for histopathological study in the department of pathology. The Hematoxylin and eosin stained sections revealed well encapsulated tumours with hyperplasia of both epithelial and stromal components. Epithelial component showed tubular pattern of epithelial hyperplasia surrounded by myoepithelial cells showing clear cell changes (Figure 3). Most of the areas showed a pericanalicular pattern of fibroadenoma. Stroma was cellular and showed myxoid change at places. Though stromal cellularity was increased, there was no leaf-like growth pattern and peri ductal concentration of cells which was the characteristic of phylloides tumour. There was occasional mitosis (0-1/hpf) and absence of cytological atypia. The final histopathological diagnosis of Bilateral Giant Juvenile Fibroadenomas of breasts was given.

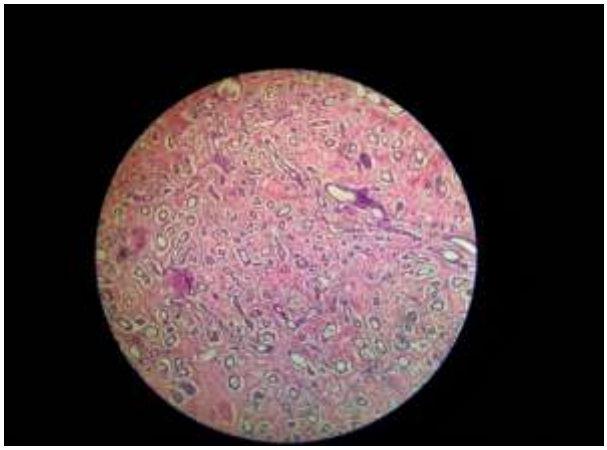

Fig 3: The Hematoxylin and eosin stained sections revealed well encapsulated tumour with hyperplasia of both epithelial and stromal components. Epithelial component showed tubular pattern of epithelial hyperplasia surrounded by myoepithelial cells showing clear cell changes (100 X).

DISCUSSION

According to the Stanford School of Medicine, juvenile fibroadenoma of the breast is defined as circumscribed, large, breast mass usually occurring in young females with hyper cellularity of both the epithelial & stromal components without any leaf-like architectural pattern of phylloides tumours [7]. Diagnostic criteria for juvenile fibroadenoma are the followings (1) well circumscribed and sometimes multiple; [2] biphasic epithelial and stromal elements in which pericanalicular pattern is most common and lacks leaf-like growth pattern in uniformly hypercellular stroma. Fibrotic areas may be present; [3] absence of atypical features in stroma-like peri ductal increase in cellularity, stromal overgrowth, cytologic atypia and mitotic rate >3/hpf; [4] frequent epithelial and myoepithelial hyperplasia; [5] most patients' are in first decade with a mean age of 15 years. Our patient was 18 year old.

Giant fibroadenoma is defined as a tumour of weight more than 500 Gms. It is commonly seen in young and black patients. Giant fibroadenoma may be either adult or juvenile type [7, 8].

It is very rare to observe that giant juvenile fibroadenoma simultaneously occurring in both breasts. Four case reports are available in the English literature [1, 3–5].Fifth case was reported by Nikumbh *et al.;* [6] in 2011. Giant juvenile fibroadenoma is an uncommon tumour presenting in adolescent females and the exact etiology is unknown. Hormonal influences may be the contributing factors [8]. Excessive estrogen stimulation and/or receptor sensitivity or decreased levels of

estrogen antagonist during puberty may be a contributory factor for pathogenesis [8, 9].

As a pathologist, it is necessary to exclude the close differentials of juvenile fibroadenoma which are benign low-grade phylloides tumour and virginal hypertrophy. Because the treatment modalities and the prognosis differ significantly in these various conditions. Some of the lesions were treated by mastectomy, but some lesions may require only local excision, aspiration or conservative management [9–11].

Giant juvenile fibroadenoma is an absolutely benign tumour and total excision of the lump with conservation of nipple and areola is the treatment of choice [9–11].

Benign low grade phylloides tumor commonly occurs in the older (>40 years) age group .Generally, they present as a solitary mass confined to unilateral breast and bilateral involvement is rarely seen [9]. The main histological features are prominent leaf-like architecture due to stromal hyper cellularity and there is a characteristic stromal condensation around the ducts and it infiltrates the surrounding breast tissue with mitotic figures <4/hpf. In high-grade phylloides tumor, stromal overgrowth with atypia and atypical mitotic figures (<10/hpf) are seen. It is treated by wide excision with a margin of normal tissue or mastectomy [9, 10, 12, 13] due to high chance of recurrence.

In juvenile breast hypertrophy, rapid and distressing enlargement of one or both breasts occurs, which is often asymmetrical and occasionally in an adolescent female. Histological examination shows abundant connective tissue and duct proliferation, frequently with epithelial hyperplasia but little or no lobule formation. It is treated by reduction mammoplasty [9, 11, 13]. Isolated case reports of unilateral juvenile fibroadenoma and multiple giant fibroadenoma in single breast were available [8, 11, 14, 15]. In the literature, only five case reports of bilateral giant juvenile fibroadenomas were reported [1, 3–6]. The last case was reported in 2010 [6].

CONCLUSION

To conclude, we present an extremely rare case of bilateral giant juvenile fibroadenoma of breasts. The case was diagnosed on FNAC and subsequently confirmed on histopathology. The treatment plan should be the removal of both the fibroadenomas conserving the breast tissue without any need of follow up.

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