

## Juvenile Cellular Giant Fibroadenoma in an Adolescent Girl - A Rare Presentation

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**Abstract:** Juvenile giant fibroadenoma is rare variants of fibroadenoma. It is more common in adolescent age group. Lump in the breast is most common presentation. Lump rapidly progresses to massive enlargement resulting in the asymmetry of the breast. Diagnosis is made on clinical basis however, FNAC and USG confirm the diagnosis. Surgical excision is the treatment of the choice.

10 years old female who didn't attain menarche has presented with lump in left breast. On examination lump was 10X8cm in size occupying entire left breast. Lump was firm in consistency with lobulated surface, freely mobile within the breast. No axillary lymph nodes were palpable. Our clinical diagnosis was Juvenile giant fibroadenoma. Surgical excision of the lump done and histological diagnosis was juvenile cellular fibroadenoma.

Juvenile cellular giant fibroadenoma in a 10years old girl is rare presentation. Only few cases have reported in literature, however fibroadenoma has reported in 13months old female in the literature. We wish to report this case because of its rarity.

**Keywords:** Fine needle aspiration cytology (FNAC), Fibroadenoma (FA), Juvenile giant fibroadenoma (JGFA), Juvenile cellular giant fibroadenoma (JCGFA) Ultrasonography (USG).

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### I. Introduction

Fibroadenoma is the most common benign tumor of the breast accounting 60-70% of all the breast lesions.(1) The common age group is 16-35 years. It is believed to be an abnormal response to estrogen stimulation on particular lobule. Patient present with a lump in the breast which is discrete, firm and non tender located in the upper and outer quadrant. The surface of the lump is smooth, sometimes lobulated. FA can be bilateral (10%) and multiple in 10-15% of the cases (2, 3).FA is > 5cm is called as giant fibroadenoma (JFA) and it is called juvenile fibroadenoma (JGFA) when it occurs in juvenile. JFA accounts 0.5-2% of all fibroadenomas(4). Diagnosis is made on clinical basis.Mammography and USG will help in the diagnosis and FNAC will confirm the diagnosis. Surgical excision is treatment of choice

### II. Case Report

A 10years girl who didn't attain menarche presented with lump in left breast which was rapidly increasing in size since last 2 months. On examination asymmetry of the both breast is noted. Left breast is larger than the right breast. Lump was 10X8cm in size, painless firm inconsistency, lobulated surface, occupying in all the quadrants of the breast. (fig.1). The lump had well defined borders and freely moving within breast tissue. The skin over the breast is stretched, shiny with engorged veins (fig. 2).There are no palpable lymph nodes in the axilla. Our provisional diagnosis was Juvenile giant fibroadenoma of left breast.



Figure 1. Lump in the left breast which larger than the right

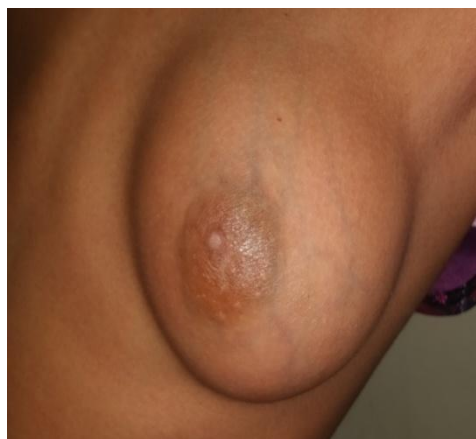


Figure 2. Large breast with engorged veins over it

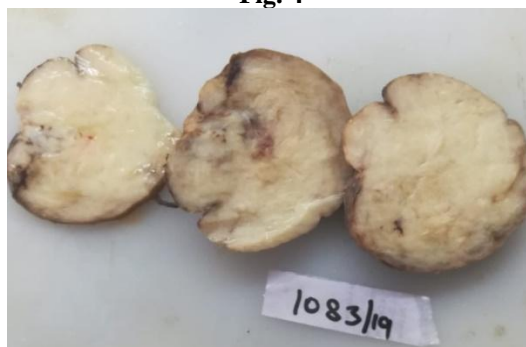


Fig.3. post ope. Specimen.

USG showed well defined, hypo to mixed echogenic mass lesion occupying entire breast. FNAC showed highly cellular smear containing ductal epithelial cells arranged in tightly packed branching sheets. Individual cells showed apocrine change. The sheets are lined by myoepithelial cells, background contains plenty of bare oval nuclei admixed with blood. Mammography was not advised as FNAC confirmed the diagnosis. Lump was excised by circumareolar incision. Lobulations are well made out on operative specimen (fig.3). Specimen sent for histopathological examination.

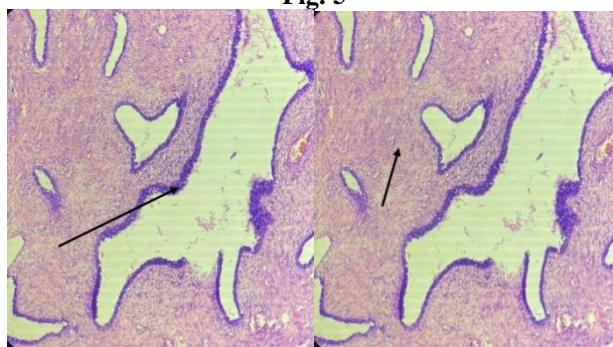
**Gross specimen:** single grey white to grey brown irregular encapsulated soft tissue mass measuring 9X7.5X4.5 cm. External surface is lobulated. Cut section shows grey white homogenous, cleft like spaces present along with irregular septations

Fig. 4



**Microscopic examination:** showed well circumscribed tumor composed of stroma and ducts. Ducts are elongated lined by cuboidal epithelium. There are areas of hyperplasia and apocrine changes are in the ductal epithelium. The stroma is composed of fibroblasts having elongated vesicular nuclei and prominent nucleoli. Extra cellular tissue is composed of fibrous and collagen bundles. Histological diagnosis was cellular juvenile giant fibroadenoma

Fig. 5



Cuboidal epithelium

Fibrocollagenous stroma.

### III. Discussion

Fibroadenoma is the most common benign tumor of the breast accounting 60-70% of all the breast lesions.(1)FA has proliferation of stromal and epithelial components arising from single lobule. Fibrotic stroma is relatively more in juvenile FA when compared to adult fibroadenoma. More cellular component is seen in juvenile cellular FA. It is believed to be an abnormal response of estrogen stimulation on particular lobule will result in fibroadenoma.

The common age group is 16-35 years. FA can be bilateral (10%) and multiple in 10-15% of the cases (2,3,)FA is > 5cm is called as giant fibroadenoma (GFA) and it is called juvenile fibroadenoma (JGFA) when it occurs in juvenile age group. JFA accounts 0.5-2% of all fibroadenomas(4). The age incidence of Juvenile fibroadenomas is 10-18 years (5).

Conventional cellular or juvenile FA is further rare and uncommon in children and adolescent girls. Juvenile fibroadenoma present as unilateral breast lump with asymmetry of both breasts and it is a concern for parents(6, 7). The asymmetry is clearly observed in our case. The lump can be discrete, firm and non tender located in the upper and outer quadrant. The surface of the lump can be smooth or lobulated. Lobulations are well made out in operative specimen of our case. It is difficult to differentiate juvenile giant fibroadenoma from phyllodes tumor clinically as phyllodes tumor can occur in this age group. Presence of leaf like structures and stromal cell atypia on histology can differentiate phyllodes(5). Virgineal hypertrophy can also come as differential diagnosis of JFA.

FA is a clinical diagnosis. USG will help in the diagnosis and tumor presents as well circumscribed round and/or lobulated mass with homogenous hypo echogenicity on ultrasonography. Mammography also shows rounded mass with micro or macro lobulations. FNAC will confirm the diagnosis. FNAC demonstrates sheets of hyperplastic, benign ductal epithelial cells with myoepithelial cells(8). Juvenile fibroadenoma shows hyperplasia of ductal epithelium(9). Surgical excision is the treatment of choice. The tumor is excised by circumareolar incision without any reconstruction surgery.

### IV. Conclusion

Juvenile Giant Fibroadenoma is rare presents as rapidly growing breast lump. It is a variant of fibroadenoma which occurs in children and Adolescent age group females. Cellular variety is further rare. Juvenile Giant Fibroadenoma is unilateral breast lump with asymmetry of both the breasts. Surgical excision is the treatment of choice

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### No conflict of interest

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