

## Juvenile giant fibroadenoma

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### Abstract

Fibroadenomas are benign solid tumor associated with aberration of normal lobular development. Juvenile giant fibroadenoma is usually single and >5 cm in size /or >500 gms in weight. Important differential diagnoses are: phyllodes tumor and juvenile gigantomastia. Simple excision is the treatment of choice.

### Case Report

A 15-year-old girl was presented with lump in the right breast since 8 month. Lump was rapidly increasing in size with no other significant history available. On examination 13×12cm mobile lump with visible vessels on the overlying skin in the upper and inner quadrant was present (Figure 1). Lump was firm to hard, and was free from overlying skin and underlying structure. Ultrasonography of breast revealed circumscribed hypoechoic mass of 13×11×12 cm size. No other significant findings were present. There was no history of risk factors for malignancy of breast. General examination did not revealed any findings consistent with metastatic disease. Fine needle aspiration cytology was suggestive of either fibro adenoma or cystosarcoma phyllodes. Patient was posted for excision biopsy under general anesthesia. Excision biopsy showed well defined smooth mass with 13×11×12 cm size and weight of 800 gm (Figure 2). Cut surface appears smooth, grayish white and homogenous (Figure 3). Histopathological findings were suggestive of giant juvenile fibroadenoma. She had a normal breast development over a period of 8 month follow up.

### Discussion

Fibroadenomas are benign solid tumor associated with aberration of normal lobular development. Although simple fibroadenoma is a disorder of breast development, giant fibroadenoma is a disease. It is the most common tumor of the breast in a female younger than 30 years. Juvenile giant fibroadenomas (JGF)

occurs in adolescents and young adult. Fibroadenomas more than 5 cm in size is termed as giant fibroadenomas. JGF comprise 0.5-2% of all fibroadenoma.<sup>1</sup>

JGF is characterized by rapid growth, large size, stretching of the overlying skin, and dilatation of superficial veins. The size of the tumor doubles in around six month. It is usually single and >5 cm in size /or >500 gms in weight.<sup>2</sup> Important differential diagnosis are: phyllodes tumor and juvenile gigantomastia. The usual age of presentation of phyllodes tumor is more than 35 years (rarely reported in puberty) and increased stromal cellularity, pleomorphism, and the presence of mitotic figures points towards phyllodes tumor rather than fibroadenoma.<sup>3</sup> High mitotic rate on biopsy points towards phyllodes tumor.<sup>4</sup> Juvenile gigantomastia is characterized by its positive estrogen receptor status and its hypersensitivity to estrogen.<sup>4</sup> Other differential diagnosis includes: giant lipoma, juvenile breast hypertrophy, and great hamartoma. Multiple giant fibroadenomas (MGF) are rare and reported to occurs usually in adolescent black females. MGF require careful management as they are high risk for recurrence following local excision.<sup>5</sup> Pre-operative tru-cut biopsy is advisable to rule out frank malignancy. The high sensitivity of MRI for cancer detection raised the possibility that it could replace biopsy in future. Differentiation of giant juvenile fibroadenomas from phyllodes tumor on basis of trucut biopsy is difficult. Ultrasonography shows round or oval well defined solid hypoechoic mass and posterior shadowing. It has been widely accepted that fibroadenomas are not premalignant condition. However, few populations based study shows small but significant risk.<sup>6,7</sup> Simple excision is the treatment of choice. Wide excision or mastectomy should be performed, if required, on the basis of final histopathological diagnosis.

### Conclusions

Pre-operative diagnosis of juvenile giant fibroadenoma is difficult. High index of suspicion is required for the diagnosis. Surgical excision remains the cornerstone of the treatment. Large size breast tumors in adolescent can be managed by breast conservation surgery. The approach should be determined by the surgeon's preference, skills, and experience. Depending on the size of the tumor, age of the patient, and stage of sexual maturity, reshaping of the breast after the removal of the tumor may be necessary. The challenge to the physician is to differentiate it from phyllodes which may require aggressive treatment.

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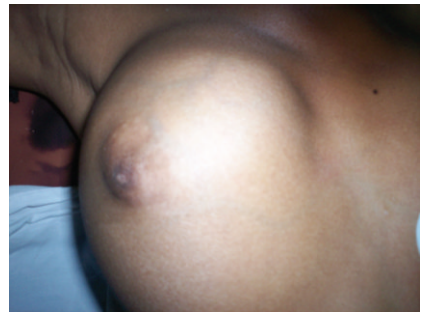


Figure 1. Juvenile giant fibroadenoma occupying inner and upper quadrant with visible vessel.

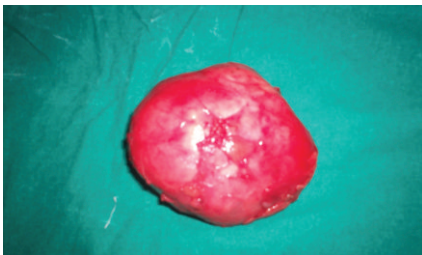


Figure 2. Excised specimen of well defined juvenile giant fibroadenoma.

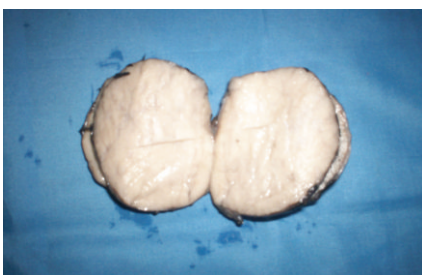


Figure 3. Smooth homogeneous cut surface of juvenile giant fibroadenoma.

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