

## Juvenile Giant Fibroadenomas, a Rare Scenario

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### I. Introduction:

Fibroadenomas are the most common benign tumor of the breast. Juvenile fibroadenoma is a rare tumor constituting 0.4% of all fibroadenomas, presenting at a very young age less than 16 years. Giant fibroadenomas are rapidly growing fibroadenomas of size larger than 5 cm but in other aspects similar to small fibroadenomas – well defined breast lump.(1)

### II. Case Report:

A 14-year-old adolescent girl presented to general surgery OPD, with chief complaints of right breast lump with significant asymmetry of breasts since two months. The right breast lump was sudden in onset and rapidly progressed to current size of approx. 10 x 10 cms, immediately after menarche. There was no history of trauma, nipple discharge, pain, fever or weight loss. On examination, there are multiple large globular swellings in right breast of maximum size 7x6 cm involving all quadrants which are non-tender with well-defined margin, smooth surface, firm consistency and mobile. The skin over swelling is tense, shiny with prominent venous engorgement. There are no palpable axillary lymph nodes (Figure No. 1). On investigation, Breast ultrasonogram showed multiple hypoechoic lesions of size ranging from 6 to 8 cm, with post acoustic enhancement and hyperechoic capsule in Right breast (Figure No. 2). Fine needle aspiration cytology of the right breast mass showed cohesive cluster of bimodular population of duct epithelial cells and fibroglandular stroma.

After discussion with the patient and the family members, the Lumpectomies of right breast were done with an infra-mammary skin incision. In the right breast, three giant fibroadenomas were excised, with size ranging from 5x5 cm, 6x6cm and 7x6 cm (Figure No. 3). After resection of all the lumps, oncoplastic repair of the breast was done to restore the breast shape and establish bilateral breast symmetry (Figure 4). The pathology confirmed right giant fibroadenomas with good prognosis (Figure 5). On post-operative period, patient recovered well, with no complications. Drain removed on first post-operative day and discharged. On follow up, the results were cosmetically acceptable without further interventions and patient showed no signs of recurrence or morbidity.



Figure No. 1 showing large right breast with apparent breast asymmetry and with prominent veins.



Figure No. 2 showing ultrasonogram image of right breast.



Figure No. 3 showing intra operative cut section of three huge fibroadenomas with size range from 5x5 cm, 6x6 to 7x6 cm



Figure No. 4 post-operative image showing sutured infra mammary incision and vaccum drain placed.

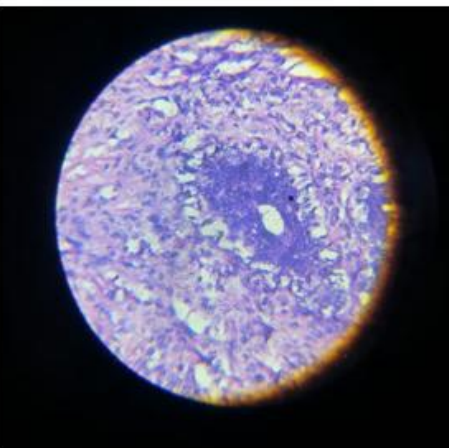


Figure No. 5 Histopathology of excised specimen showing biphasic proliferation of stromal and epithelial elements in breast tissue.

### III. Discussion:

Fibroadenomas of the breast are most common benign neoplasm of female breast diagnosed in young girls of 2<sup>nd</sup> and 3<sup>rd</sup> decade. The nomenclature of fibroadenoma in younger women is designated as age related term juvenile fibroadenoma and size related term giant or massive fibroadenoma.(2)

The pathogenesis of fibroadenoma is unknown, but excessive estrogen stimulation and / or receptor sensitivity or reduced levels of estrogen antagonist during puberty have been implicated in pathogenesis. During puberty, the lobules and stroma in the breast may respond to the increased levels of estradiol and progesterone, leading to an increase in breast size of up to 15% and the development of single or multiple palpable fibroadenomas. Fluctuations in breast size may occur with the menstrual cycle. Thus, fibroadenomas can range from asymptomatic masses to painful and fast-growing tumors.(3)

The diagnosis of juvenile fibroadenomas relies on careful history and physical examination. Once the breast mass is observed, surgeon should perform detailed breast examination to document tumor location, size, texture, skin change, nipple discharges, and lymph nodes.(3) In our case, we found painless, rapidly growing,

multiple well defined, globular swellings in right breast of maximum size 7x6 cm involving all quadrants with smooth surface, firm consistency and mobile. The skin over swelling is tense, shiny with prominent venous engorgement. There are no palpable axillary lymph nodes.

The breast ultrasound is considered the most effective diagnostic tool due to breast tissue density than mammography in young females. The most common sonographic feature of juvenile fibroadenoma is a well-defined hypoechoic or isoechoic mass with posterior acoustic enhancement and hyper vascularity in color Doppler sonography.(4)The high sensitivity of MRI for cancer detection raised the possibility that it could replace biopsy in future but its costly and usually performed in case where resource are accessible and high suspicion of malignancy.(3)

On Biopsy, Fibroadenoma comprises of both fibrous stroma and glandular tissue and shows bimodular proliferation of stromal and epithelial elements in breast tissue.(5)The benign form of phyllodes behaves like fibroadenoma whereas the malignant form tends to be aggressive and metastasizes early. As both fibroadenoma and phyllodes tumor shares similar clinical finding, it is clinically challenging to differentiate between these two lesions without histopathological examination.(6)In our case we did FNAC of the right breast mass which showed cohesive cluster of bimodular population of duct epithelial cells and fibroglandular stroma, suggesting fibroadenoma.

The important differential diagnosis of giant juvenile fibroadenoma include low grade phyllodes tumor, virginal hypertrophy, lipoma, breast abscess, adenocarcinoma and pseudo angiomatous stromal hyperplasia.(7) It is important to differentiate juvenile fibroadenoma from these entities.

Currently, there is a lack of clear guidelines, coupled with the potential for rapid tumor growth makes complete surgical excision an excellent diagnostic and treatment modality.(8)Giant juvenile fibroadenomas may compress normal breast tissue during developmental stage, thereby compromising normal shape and function of affect breast, precluding the need for reconstruction(9).This affects the girl physiologically during lactation and psychologically as cosmesis.

Total excision of lump with emphasis on preserving the developing breast parenchyma and nipple areolar complex is of paramount importance in achieving superior aesthetic results. The safety profile of total excision is remarkable without reports of postoperative complications and a low recurrence rate of tumor.(10)

#### **IV. Conclusion:**

Juvenile giant fibroadenoma is a benign disease but its diagnosis is great dilemma requiring a high index of suspicion. Surgical excision remains the main treatment, as giant fibroadenoma can be disfiguring and may impede the normal breast tissue from growth by direct pressure effect.The approach should be determined by the surgeon's preference depending on the size of the tumor, age of the patient, and stage of sexual maturity, reshaping of the breast. Large size breast tumors in adolescent can be managed by breast conservation surgery after the removal of the tumor in order to restore aesthetic and functional confidence without further interventions.

#### **Reference:**

- [1]. Dayal S, Shukla K, Singh A. Giant Juvenile Fibroadenoma of the Breast in a Preadolescent Girl. 2017;
- [2]. Kumar S, Dhull AK, Kaur P. Giant Fibroadenoma Mimicking Phylloides Tumor In A Young Female: A Cytological Dilemma.
- [3]. Huang I-C, Li P-C, Ding D-C. Recurrent juvenile fibroadenoma of the breast in an adolescent: A case report. *Medicine (Baltimore)*. 2018;97(20).
- [4]. Yagnik VD. Juvenile giant fibroadenoma. *Clin Pract*. 2011;1(3).
- [5]. Vinay kumar, Abul K. Abbas, Jon C. Aster. Robbins BASIC PATHOLOGY. 9th ed.
- [6]. Firdaus CM, Norjazliney A, Rashid NFA. A case report of juvenile giant fibroadenoma of the breast: How common? *Tzu-Chi Med J*. 2017;29(3):177.
- [7]. Muttarak M, Chaiwun B. Imaging of giant breast masses with pathological correlation. *Singapore Med J*. 2004;45(3):132–9.
- [8]. Sosin M, Pulcrano M, Feldman ED, Patel KM, Nahabedian MY, Weissler JM, et al. Giant juvenile fibroadenoma: a systematic review with diagnostic and treatment recommendations. *Gland Surg*. 2015;4(4):312.
- [9]. Sosin M, Feldman E. Giant juvenile fibroadenoma: a case and review of novel modalities in treatment. *Breast Dis*. 2013;34(1):35–8.
- [10]. Chang DS, McGrath MH. Management of benign tumors of the adolescent breast. *Plast Reconstr Surg*. 2007;120(1):13e–9e.

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