

# Giant Bilateral Juvenile Fibroadenoma of the Breast in Prepubescent Girl

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## ABSTRACT

Juvenile fibroadenoma accounts for 4% of the total fibroadenomas. Giant juvenile fibroadenoma is found in only 0.5% of all fibroadenomas. The authors report a 10-year girl presenting with progressive enlargement of both breasts for one year. Based on clinical findings and Fine Needle Aspiration Cytology (FNAC), a diagnosis of bilateral giant juvenile fibroadenomas of breast was made. She underwent bilateral lumpectomy with breast conservation and made uneventful postoperative recovery.

**Key Words:** Juvenile fibroadenoma. Giant fibroadenoma. Prepubescent girl.

## INTRODUCTION

Fibroadenoma is the most common benign tumour of breast.<sup>1</sup> They are more common in female patients younger than 30 years of age.<sup>2</sup> Very rarely these benign tumours occur in pre-pubertal girls which accounts for only 4% of the total fibroadenomas. Occasionally, these juvenile fibroadenomas attain a size more than 5 cm and called giant juvenile fibroadenoma with reported incidence of 0.5%.<sup>1-3</sup> Bilateralism is extremely uncommon.<sup>1,4-7</sup> To the best of our knowledge, we are presenting the first case report of a 10 years old girl with bilateral giant juvenile fibroadenoma managed successfully with breast conservation surgery.

Treatment options for giant juvenile fibroadenoma of the breast are either surgery or continue observation. Cosmesis and lactation preservation are the main concerns for breast masses although malignancy is extremely unlikely in this age group. Still with juvenile fibroadenomas malignancy is of lesser concern because of their more cellular and less lobular histology.<sup>8</sup> Authors managed this case successfully with breast conservation surgery with preservation of shape and function.

## CASE REPORT

A 10-year girl presented in the Surgery Clinic with progressive enlargement of both breasts for one year. Her parents were concerned about her breast size and associated giant lumps. She had not yet reached

menarche. She had no significant family history of benign or malignant breast disease. On examination, the right breast mass was retroareolar measuring 6 x 5 cm while on the left side it was 10 x 15 cm involving the whole breast. Both were freely movable and had variable consistency on palpation. The overlying skin was normal on both side and no axillary lymphadenopathy appreciated on either side. Initial impression was of giant fibroadenoma and patient was accordingly investigated.

Ultrasound of both breasts revealed solid breast lesion bilaterally, suggestive of fibroadenomas. Fine needle aspiration cytology revealed aggregates of epithelial cells with few bipolar nuclei. There was no evidence of malignancy. Her complete blood count was normal.

She was planned for lumpectomy with conservation of breast after discussion with patient and family. Lumpectomy was done on both the sides with circumareolar incision (Figure 1). The excised lump on the right side measured 6 x 5 cm weighed 509 gms and on left side 10 x 15 cm weighed 754 gms. The specimens were sent for histopathology and she was discharged home in a stable condition. Histopathology revealed giant fibroadenoma bilaterally (Figure 2).



Figure 1: Intraoperative picture showing left giant fibroadenoma.

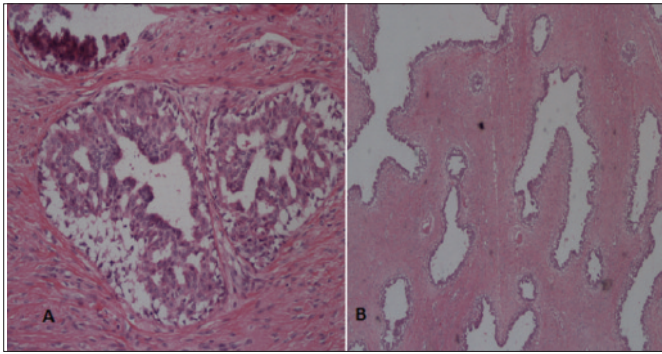
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**Figure 2:** (A) Epithelial hyperplasia of ductal component of fibroadenoma. (B) Ducts with pericanalicular pattern and stromal hyperplasia

She was followed-up in clinic twice, two and four weeks after the surgery respectively. Wounds were completely healed and there was no seroma formation.

### DISCUSSION

Fibroadenoma is a solid, benign tumour that affects the young women under the age of 30 years. They frequently occur in adolescent girls of African American origin. When these enlarged masses are found in young female patients, they are often called, juvenile fibroadenoma.<sup>8</sup>

According to Stanford School of Medicine, juvenile fibroadenoma of the breast is defined as circumscribed, often large, breast mass usually occurring in adolescent female with stromal and epithelial hypercellularity but lacking the leaf like growth pattern of phyllodes tumour. It occurs mostly between 10 - 20 years of age with a mean age of 15 years, may be multiple.<sup>3</sup> Giant fibroadenoma is defined as tumour  $\geq 5$  cm in diameter, and/ or weighing more than 500 grams.<sup>9</sup>

Giant juvenile fibroadenoma causes rapid and massive enlargement of the breast in adolescent and is an uncommon tumour. They can grow to immense proportions, compressing and displacing normal breast tissues and stretching and displacing the overlying skin and nipple-areola complex. Exact etiology of giant juvenile fibroadenoma is unknown. Excessive estrogen stimulation or receptor sensitivity or decrease level of estrogen antagonist during puberty have been implicated in the pathogenesis.<sup>10,11</sup> It is very important to exclude the close differentials of juvenile fibroadenoma like low grade phyllodes tumour, as treatment modalities and the prognosis differ quite significantly.<sup>12</sup> Ultrasound

is the imaging modality of choice in young patients with breast mass. A breast ultrasound, fine needle aspiration or core biopsy can provide a definitive diagnosis in most cases.<sup>11</sup>

Bilateral giant juvenile fibroadenomas are very rare entity. To the best of authors' knowledge 5 cases of bilateral giant juvenile fibroadenomas of the breast are reported in the literature and authors are presenting the sixth case.<sup>1,4-7</sup> This patient was 10 years of age and the youngest case ever reported who was treated with breast conservation.

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