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A pre-pubertal girl with giant juvenile fibroadenoma: A rare case report

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ABSTRACT

INTRODUCTION: Fibroadenomas are benign neoplasms usually arising between the ages of 15–25 years. Approximately 0.4% fibroadenomas arise in juvenile age group. Usually the diagnosis is straightforward by clinical examination and FNAC. But sometimes rapid growth and giant size may pose difficulty in clinical approach.
CASE PRESENTATION: In this paper we are presenting a rare case of giant juvenile fibroadenoma in a 10 years old girl which was diagnosed by FNAC and treated by excision. Diagnosis was confirmed by histopathology.
DISCUSSION: Giant juvenile fibroadenomas are over 5 cm in diameter and tend to show rapid growth mimicking a carcinoma. But histological features are similar to smaller fibroadenomas and can be enucleated.
CONCLUSION: Through this case we want to emphasize that these giant benign neoplasms should be suspected in any pre-pubertal girl with breast lump and should always be treated with breast conserving surgery.

1. Introduction

Fibroadenomas are the most common benign neoplasms of adolescent breast. They are termed giant when they attain a size more than 5 cm or are disproportionately larger than normal breast. Giant fibroadenomas may present as a clinical problem to treating surgeons as they may show rapid growth and skin changes thus mimicking carcinoma. Giant fibroadenomas are extremely rare in pre-pubertal girls. Through this case report we want to highlight the clinical approach and management of giant fibroadenoma in pre-pubertal girls. We are reporting our work in line with the CARE criteria [1].

2. Case presentation

A 10 years old girl presented with rapidly enlarging left breast for 1 year duration without any history of pain, trauma, fever, anorexia and weight loss. She has not attained her menarche and there was no significant family history.

On clinical examination (Fig. 1) 20 cm × 20 cm well-circumscribed, firm, non-tender and mobile lump was palpable in left breast with right breast being normal. The lump was not fixed to skin or underlying muscle. The overlying skin was tense and shiny with prominent superficial veins. There was no discharge from the nipple, and axillary lymph-adenopathy was absent.

Routine hematological and biochemical examinations were within normal limits. We particularly wanted to see if ESR was raised as tuberculosis was one of the differential diagnosis. Chest X-ray was normal. Ultrasonography of breast showed heterogenous parenchymal pattern suggestive of left breast fibroadenoma. The patient was subjected to fine-needle aspiration cytology (FNAC) of the breast lump with pathology suggesting fibroadenoma.

Surgical excision of left breast lump with preservation of normal breast tissue, skin and nipple-areola complex was carried out. The specimen was sent for histopathological examination which showed well encapsulated tumor with hyperplasia of both epithelial and stromal components. The glands were lined by bilayered epithelium with pericanalicular pattern of fibroadenoma and absence of cytological atypia. The final histopathological diagnosis of Giant Juvenile Fibroadenoma of breast was given (Fig. 2).

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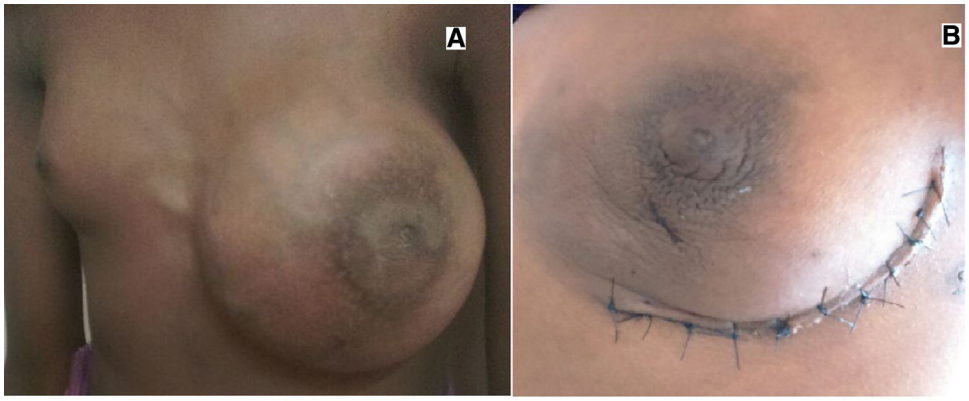

Fig. 1. (A) Pre-operative photograph showing giant fibro-adenoma of left breast. (B) Post-operative photograph after excision.

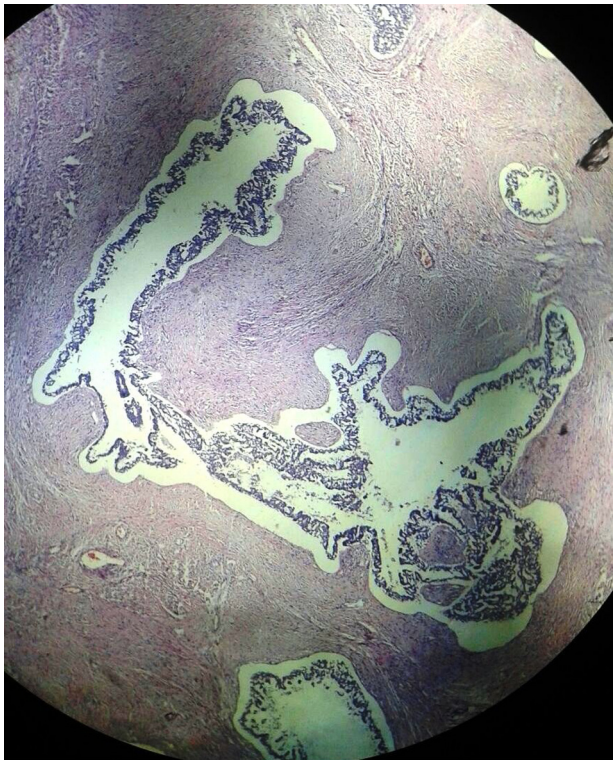

Fig. 2. Microscopy showing the leaf like pattern (H&E 10×).

Surgical excision with breast conservation resulted in very good cosmesis and patient satisfaction. She is in regular follow-up after 6 months of surgery and doing well.

3. Discussion

Giant fibroadenoma is defined as a tumor >5 cm in diameter or disproportionally large compared to the rest of the breast. They are classified as either adult or juvenile type, latter being rare [2,3]. The exact etiology of pathogenesis of giant fibroadenomas is still not understood completely. Major contributing factor is thought to be hormonal influence on adolescent breast [3]. Excessive estrogen stimulation and/or receptor sensitivity or reduced levels of estrogen antagonist during puberty have been implicated [3,4].

When a pre-pubertal girl presents with a breast lump, possibility of phyllodes tumor, virginal hypertrophy and adenocarcinoma should always be kept in mind. In tropical countries, Tuberculosis of the breast is an important differential for a breast lump. Ultrasonography of the breast with axilla and fine needle aspiration cytology are the two key diagnostic modalities available for evaluation of breast lump in this age group. Treatment modalities and the prognosis differ quite significantly in these various conditions. Some of the lesions are treated by mastectomy, but some lesions may require only local excision, aspiration, or conservative management [4–6].

A giant fibroadenoma should be excised as its increasing size may distort the shape of breast. A submammary incision is preferred to provide good cosmesis. Recurrences after excision are reported in literature but are not common [7,8].

Isolated case reports of unilateral juvenile fibroadenoma and multiple giant fibroadenoma in single breast are available [3,6,8,9]. Fortunately, complete excision with excellent cosmesis is possible in majority of these tumors, as was done in our patient.

4. Conclusion

Virginal hypertrophy, giant fibroadenoma, and cystosarcoma phyllodes are the important differential diagnoses to be considered when one encounters a large breast mass in a young female patient. Counselling of the patient and the parents are key to the management of this pathology along with avoidance of missing any rare malignant pathology.

Conflict of interest

Authors declare no conflict of interest.

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Ethical approval

Case report so ethical clearnace not obtained.

Consent

Written consent obtained from father of patient for use of data for publication purpose.

Author contribution

1. Kumar Gaurav—Operating surgeon, study concept and design.
2. Gautam Chandra—Operating surgeon, study concept and design.
3. Kumari Neelam—Data collection, data analysis, proof reading.
4. Sanjeet kumar—Data collection, analysis, proof reading.
5. Harish Singla—Study concept and design, writing the paper.
6. Sanjay Kumar Yadav—Data interpretation, writing the paper

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