

# CASE REPORT

## GIANT JUVENILE FIBROADENOMA OF BREAST: A CASE REPORT

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**ABSTRACT:** Fibro-adenoma typically occurs in fully developed breast between the ages of 20 and 35 years and generally it is uncommon to find palpable breast masses in young adolescent patients. We present a case of a 13-year-old girl with a 20 × 20 cm, enlarging mass in left breast since three months, for whom resection and breast reduction was effectively achieved by total excision biopsy, preserving the nipple and areola. Fine-needle aspiration cytology showed a benign proliferative breast lesion. Histopathology revealed both intracanalicular and pericanalicular component with predominant pericanalicular pattern of fibroadenoma.

**KEYWORDS:** Giant fibroadenoma; Adolescent girl; sexual maturity rating (SMR).

**INTRODUCTION:** Benign proliferative breast disease is an extremely complex and interrelated group of proliferative disorders of the breast parenchyma. Fibro-adenoma is a common benign tumour in the breast during 20 to 35 years period. Any variation in its normal development often deserves attention. Diffuse physiological hypertrophy, giant fibroadenoma, and cystosarcoma phyllodes are the important differential diagnosis to be considered when one encounters a large breast lesion. Although the majority of breast disorders in pediatric age group are benign, the presence of any breast mass frequently alarms parental concerns of a potential cancer.<sup>1,2</sup>

Giant fibroadenoma is a rare pathology usually presenting in adolescence characterized by massive and rapid enlargement of the breast in short duration. Distinguishing it from cystosarcoma phyllodes preoperatively is difficult, but is important as they have a different therapeutic approach and different follow-up<sup>1</sup>. We report a case of giant fibroadenoma of the breast in a 13-year-old girl and discuss the diagnostic possibilities with a review of literature.

**CASE REPORT:** A 13-year-old girl presented with history of rapidly enlarging left breast of three months duration. There is no history of trauma, pain, nipple discharge, fever, anorexia, or weight loss. There was no family history of similar complaints.

On examination, unilateral enlargement of the left breast was present, the right breast was normal. It was a 20 × 20cm, solitary, well-circumscribed, firm, non-tender and non-adherent to the underlying structures. There was no axillary lymphadenopathy. She had sexual maturity rating (SMR) of Tanner Stage 2. Systemic examination was normal. Blood counts were within normal limits.

Fibroadenoma of breast was suspected but due to the rapid rate of enlargement and large size, malignant phyllodes could not be ruled out. Fine needle aspiration from the mass was suggestive of benign proliferative breast lesion. Total excision of the mass preserving the nipple and areola was done. The cut surface is grayish-white, lobulated with slit-like space (Fig. 1). Histopathology showed proliferation of glands and connective tissue stroma with both

# CASE REPORT

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intra canalicular and pericanalicular component with predominant pericanalicular pattern. There are foci of occasional glands with stratification. The stromal cells have uniform nuclei. (Fig. 2, 3)

**DISCUSSION:** Benign Breast disease can arise during any stage of puberty and in young adults, so it is important to understand normal breast development. Sexual maturity rating (SMR) or Tanner stages are used to describe breast development.

**Stage 1:** Pre pubertal elevation of papilla only

**Stage 2:** Elevation of breast tissue and papilla as a small mound. Enlargement of areola.

**Stage 3:** There is greater volume of breast tissue, areola is larger but lays flat against the contour of the breast tissue.

**Stage 4:** Projection of areola and papilla to form a secondary mound.

**Stage 5:** Breasts attain adult size, and the areola returns to the contour of the breast tissue.<sup>3</sup>

Fibroadenomas are the most commonly (50-60%) encountered breast mass in adolescents and are believed to be caused by an abnormal response to estrogen. They typically present as solitary well circumscribed freely movable non-tender mass in the breast. They may be bilateral (10%), or multiple<sup>4</sup>(10% to 15%). The most common location is the outer upper quadrant of the breast.<sup>5</sup> In adolescent and young adult patients, fibroadenomas are not associated with malignancies. The giant fibroadenoma is an uncommon variant (4%) of fibroadenoma characterized by rapid growth. They occur occasionally during puberty and are common in Afro-caribbean females. The size of the lesion is usually more than 5 cm but is encapsulated and benign. The underlying mass may cause a major distortion to the breast contour<sup>6</sup>.

Dupont describes two histological groups of fibroadenomas, simple and complex. Complex fibroadenoma refers to fibroadenomas with foci of cysts, sclerosing adenosis, epithelial calcifications, and papillary apocrine metaplasia, and has a higher future risk of malignancy.<sup>7</sup> The diagnosis of large breast tumors in adolescent females rests primarily on three possibilities: giant fibroadenoma, cystosarcoma phyllodes, and physiological hypertrophy. It is important to distinguish these three pathological entities preoperatively as they have different therapeutic approach.

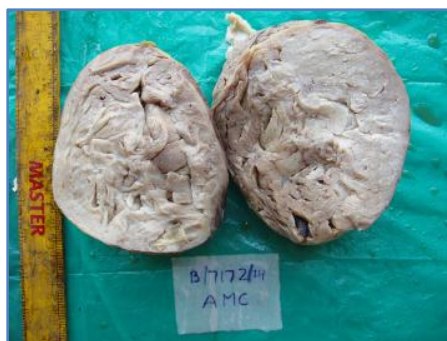
Histologically, giant fibroadenomas have to be differentiated from cystosarcoma phyllodes by the lack of leaf-like pattern and stromal cell atypia and from asymmetric breast hypertrophy in girls by the lack of mammary lobules.<sup>8</sup> Other infrequent causes include post-traumatic fat necrosis and mastitis. In fat necrosis of breast, usually a well circumscribed lump is not palpable while in mastitis all features of inflammation are seen.<sup>9</sup> Fortunately, majority of these tumors can be completely excised, preserving the nipple and areola, as was done in our patient. Giant juvenile fibroadenoma may recur after complete excision, but the chance of recurrence becomes less after third decade.<sup>10</sup> Although malignant tumors of the breast are rare in the adolescent age group, 2% of all primary malignant breast lesions occur under the age of 25 years in females.<sup>11</sup>

# CASE REPORT

**CONCLUSION:** Understanding various breast pathologies, a complete physical examination and diagnostic evaluation would help to reassure the patient and the parents, as well as to avoid missing any rare malignant lesion.

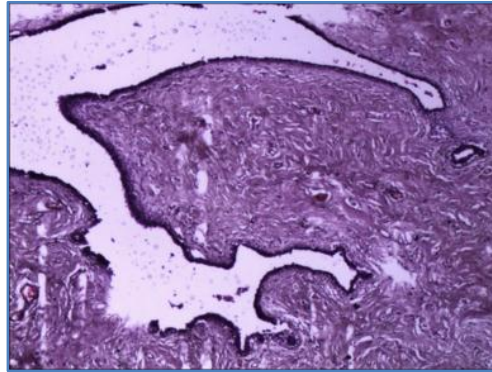
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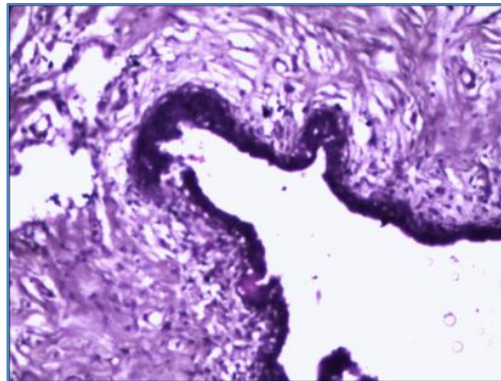


**Fig. 1: Gross photograph of specimen of size 20 x 16 x 8cm grayish-white, lobulated with slit-like spaces**

# CASE REPORT



**Fig. 2: Microscopic appearance of fibroadenoma with proliferation of glands and stromal component. 40x, H & E**



**Fig. 3: Microscopic appearance of fibroadenoma with foci of stratification of the glands. 100x, H & E**

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