

From Tiny to Tremendous: A Case of Giant Fibroadenoma

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ABSTRACT

Giant fibroadenomas are rare, benign breast tumors characterized by significant stromal and glandular proliferation, predominantly affecting young women, often exceeding 5 cm in size. (1). Although histologically similar to conventional fibroadenomas, their clinical presentation, rapid enlargement, potential for breast distortion and psychological distress make them a distinct entity requiring timely diagnosis & intervention.(2)

Methods: This case series reports eleven patients with giant fibroadenomas. Their clinical presentation, diagnostic workup, surgical treatment, and follow-up results are presented.

Results: Surgical excision was performed in all patients, with histopathology establishing giant fibroadenoma in all cases. There was no recurrence or malignant transformation on follow-up.

Conclusion: Giant fibroadenomas should be diagnosed early and managed by surgery to avoid cosmetic deformities and provide adequate excision. This case series contributes to the literature and highlights the need for distinguishing giant fibroadenomas from other rapidly enlarging breast tumors.

Keywords: Giant fibroadenoma, breast tumor, benign breast lump, lumpectomy, BIRADS, fibroadenosis, breast surgery outcomes, fibrocystic changes.

INTRODUCTION

Definition and Background

Fibroadenomas are benign breast tumors that originate from the lobular stroma, which is made up of glandular and stromal tissues. (3). They are a deviation from normal development and involution of the breast. They are firm, mobile, and painless and usually present as a discrete mass on clinical examination. Whereas the majority of fibroadenomas are tiny and not producing symptoms, exceptionally large fibroadenomas—over 5 cm in diameter—may exceptionally be found in younger women going through puberty (Singh et al., 2021).(4)

Epidemiology

Fibroadenomas are the most frequent benign breast tumors, usually found in women between the ages of 15–25 years. The prevalence is estimated to be around 10% in women, with a greater frequency during reproductive years because of hormonal effects.(5) Giant fibroadenomas are uncommon, representing fewer than 4% of all fibroadenoma cases, and are more frequently seen in adolescents and young adults (Choi et al., 2018).(6)

Significance of Studying Giant Fibroadenomas

Clinical presentation of giant fibroadenomas is particularly challenging with features such as accelerated growth, disruption of breast anatomy, and psychosocial distress for the patients. Early detection and proper management will avoid complications from compression of surrounding tissues or cosmetic issues. Research into giant fibroadenomas refines diagnostic workup, optimizes surgical methods, and improves patient outcomes. Further, knowledge of these tumors adds to general knowledge of breast pathology and how it can be managed among heterogeneous patient populations (Huang et al., 2013).(7).

Case Series

Case 1

The case report here is that of a 43-year-old woman who had a painless firm mass in the left breast for two years, and there was a recent rapid growth over nine months, resulting in altered breast contour. Diagnostic tests established the existence of a giant fibroadenoma on the basis of a mix of imaging and histopathological methods. Ultrasound (USG) sonomammography depicted several ill-defined nodular lesions along with surrounding inflammatory changes, which were categorized under BIRADS 4, meaning a suspicious but probable benign nature (Choi et al., 2018). A chest X-ray was found to be normal, and thus thoracic involvement was excluded. Fine Needle Aspiration Cytology (FNAC) results were in keeping with fibroadenoma, which are in agreement with reported cytological findings of such tumors (Huang et al., 2013). Histopathological analysis also supported the diagnosis, proving fibroadenosis with fibrocystic alterations, which are characteristic features of benign breast tumors (Singh et al., 2021). The patient was treated with a lumpectomy, removing successfully a 10 cm mass. Postoperative results confirmed complete remission of symptoms and improved quality of life. (Choi et al., 2018). (8)

Case 2

A 22-year-old female patient had a progressively enlarging, painless mass in her left breast over one year. On examination, there was a 6×5 cm firm, mobile mass. Ultrasound revealed a well-defined hypoechoic lesion consistent with fibroadenoma. Core needle biopsy established the diagnosis. Due to the size and cosmetic issues, a total mastectomy was done. Histopathology established a giant fibroadenoma with no atypia. The patient was disease-free at 2 years' follow-up (9).

Case 3

An 11-year-old girl with premenarchal age developed a rapidly growing right breast mass over a period of six months. The mass was 10 × 8 × 2.5 cm in size. Imaging and biopsy established juvenile giant fibroadenoma. The mass was removed entirely without reconstruction. The patient was asymptomatic at 2-year follow-up (10).

Case 4

A 14-year-old girl had a painless, rapidly growing left breast mass measuring 20 cm in diameter. Imaging was indicative of a giant fibroadenoma, and core biopsy confirmed the diagnosis. The patient had total surgical excision, with histopathology establishing a juvenile giant fibroadenoma. No recurrence at 10-month follow-up (11).

Case 5

A 55-year-old female had a rapidly increasing right breast mass. The 8 × 9 cm tumor was initially considered to be a phyllodes tumor, but histopathology following mastectomy established a giant fibroadenoma. The patient had uneventful recovery and was free of recurrence at 1-year follow-up (12).

Case 6

A 16-year-old female with an asymptomatic but enlarging 11 × 10 cm left breast mass was diagnosed with a giant fibroadenoma. The mass was excised surgically, and histopathology was done to confirm the diagnosis. The patient was symptom-free at 6-month follow-up (13).

Case 7

A 19-year-old woman presented with a 14 × 11 cm mass of the right breast. Imaging studies identified a giant fibroadenoma, and she underwent total excision. No recurrence or complication was observed on a 1-year follow-up (14).

Case 8

A 27-year-old woman presented with a painless rapidly growing left breast mass of 11 × 9 cm. Core biopsy was positive for Giant fibroadenoma. The mass was removed totally, and the patient was asymptomatic at 9-month follow-up (15).

Case 9

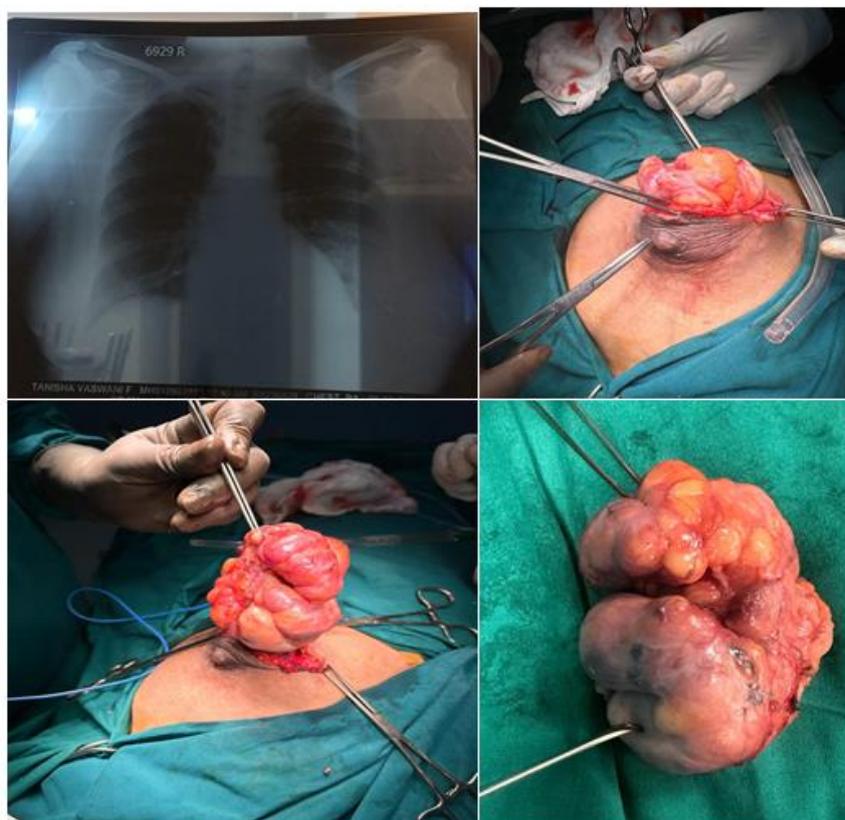
A 17-year-old girl presented with a painless, gradually enlarging 7 × 5 cm right breast mass. Imaging showed a giant fibroadenoma. The mass was totally removed, and the patient remained asymptomatic on 1-year follow-up (16).

Case 10

A 20-year-old female presented with a 12 × 8 cm left breast mass, rapidly increasing over six months. Imaging and biopsy revealed a giant fibroadenoma. The mass was removed surgically, and histopathology revealed no atypia. The patient was fine without complications and showed no recurrence at 2-year follow-up (17).

Case 11

A 43-year-old female presented with a 10 × 7 cm right breast mass, enlarging over the past year. There was no history of trauma or family history of breast malignancy. FNAC confirmed a giant fibroadenoma. Given her concerns about breast asymmetry, excision was performed. The patient remained recurrence-free at 6-month follow-up (18).



DISCUSSION

Giant fibroadenomas are defined by extensive stromal and glandular proliferation, stimulated by hormonal effects, especially estrogen. They present as enlarging, well-defined masses, and are challenging to diagnose and treat (Huang et al., 2013). The pathophysiology consists of an abnormality of normal development and involution, causing the excessive growth of stromal elements compared to glandular elements (Choi et al., 2018). (19).

The differential diagnoses of giant fibroadenomas are phyllodes tumors, breast abscesses, and malignancies, including invasive ductal carcinoma. These diseases might have a similar presentation but must be managed differently. Overlapping clinical and imaging features cause diagnostic difficulties, which highlight the value of combining imaging modalities like ultrasound with histopathological verification for precise diagnosis (Singh et al., 2021).

Imaging is also very important, with sonomammography being especially helpful in determining lesion features and classifying them according to the BIRADS system. Histopathology is still the gold standard to differentiate benign fibroadenomas from other conditions, especially phyllodes tumors, which have more aggressive behavior (Choi et al., 2018). (20)

Surgical removal is still the standard of care for giant fibroadenomas, which guarantees total symptomatic relief and diagnostic certainty. Other treatments, including cryoablation, echotherapy, and large-core vacuum biopsy, are minimally invasive alternatives but are usually restricted to smaller tumors or certain patient groups (Huang et al., 2013). The selected cases may be suitable for these treatments but should be properly chosen and well evaluated to achieve effective results.

CONCLUSION

Giant fibroadenomas, although benign, have clinical importance because of their enormous size and their related symptoms that may affect the physical and psychological health of patients. They must be diagnosed early and managed properly to prevent complications and ensure maximum success. Surgical excision, specifically lumpectomy, still remains the treatment of choice with the advantage of exact tumor removal and low recurrence. Postoperative follow-up

reveals marked improvement in patient quality of life, which underscores the need for effective and timely treatment measures.(21)

Footnote

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