

Case Report

Giant Fibroadenoma of the Breast - Cosmetic and Functional Efficacy of Small Circumareolar Incision

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ABSTRACT

Giant fibroadenomas are a rare form of fibroadenoma presenting as rapidly enlarging breast masses. Typically, greater than 5 cm or 500 grams in size and most frequently seen in premenopausal Afro-Caribbean or East Asian females [1]. Giant juvenile fibroadenoma in adolescents should be dealt with utmost caution as this may be associated with anxiety, fear, and emotional distress. Aim of treatment is preserving the normal contour of the breast along with a good cosmetic scar. We are hereby describing a step-by-step scheme for removal of such large masses via a small cosmetic circumareolar incision ensuring an optimal balance between complete resection and acceptable cosmetic outcome for a developing breast.

KEYWORDS: Giant fibroadenoma, Benign breast lesions, Circumareolar incision

INTRODUCTION

The approach to breast lesions in adolescents is slightly different from that in adults. Cosmesis is an important consideration when making breast incisions, especially in the young adult. Excision of giant fibroadenomas poses a significant surgical challenge and is generally performed through large sub mammary or radial incisions, which may produce diffuse or unsightly scarring. A detailed and comprehensive history and clinical examination are vital for optimal management. Fibroadenoma has the highest incidence of breast lesions in young women between 15 and 30 years old. It can exist as a solitary mass or multiple masses. When these enlarged masses are histologically confirmed in young female patients, they are often called juvenile fibroadenomas. A giant fibroadenoma replaces at

least 80% of the breast. Differentials include phyllodes tumor, physiological hypertrophy, and other inflammatory lesions like breast abscess. The mainstay of treatment for benign breast lesions in pre-pubescent and adolescents is conservative to avoid unnecessary injury to a developing breast. If the patient has persistent symptoms, a surgical approach is indicated. In this case report, we are highlighting the efficacy of small circumareolar incision in management of juvenile giant fibroadenoma.

CASE PROFILE

16-year-old female presented to surgical outpatient department with complaints of lump in the left breast for 9 months. The lump was initially a size of a lemon, freely mobile, painless gradually increasing to its present size. On

examination overlying skin was tense with distended superficial veins. The nipple areola complex was normal in appearance and asymmetrically placed compared to contralateral nipple areola complex. The mass was non-tender, freely mobile, well circumscribed, bosselated, firm in consistency and was found encompassing the whole upper and lower outer quadrant with nipple areola complex [Figure 1].



Figure 1: Giant fibroadenoma of left breast anterior & lateral views

All the laboratory and biochemical parameters along with systemic examination were within the normal limit.

Ultrasonography (USG) of left breast showed inhomogeneous solid mass measuring 8X8X7 cm with posterior acoustic

enhancement in left breast suggestive of fibroadenoma.

FNAC of left breast shows on examination suggestive of benign breast disease, most likely fibroadenoma.

Breast marking were done to assess the symmetry of breast, [Figure 2].

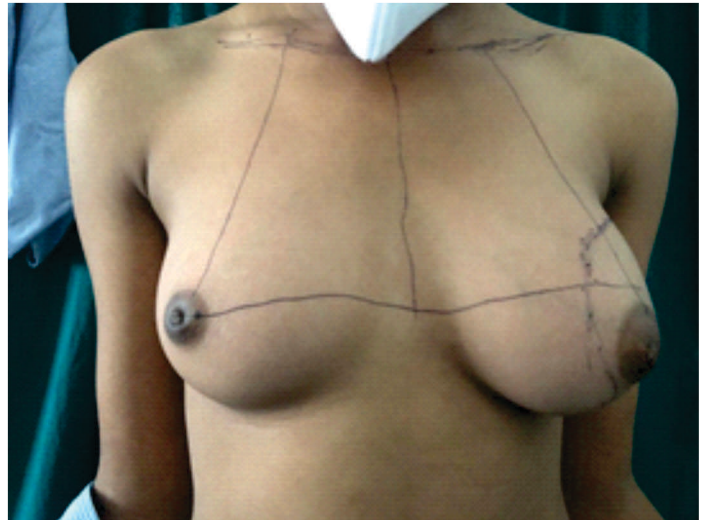


Figure 2: Pre-operative markings showing asymmetry of breast

The patient was taken for surgery, a 4-cm circumareolar incision was made superiorly [figure 3].



Figure 3: Post-operative sutured wound with inframammary drain in situ

Breast skin was mobilized over the lump, and an incision was developed down to the lump. The mass was mobilized using sharp dissection by diathermy and bluntly by fingers to free it from surrounding breast tissue. Mass was excised in piece meal fashion. A closed non-suction drain was inserted through a small cosmetic incision placed strategically in the inframammary fold [Figure 3]. Incision was closed in single layer with 3-0 absorbable suture in such a manner that nipple was pulled upwards to restore the symmetry with the contralateral breast [Figure 4].

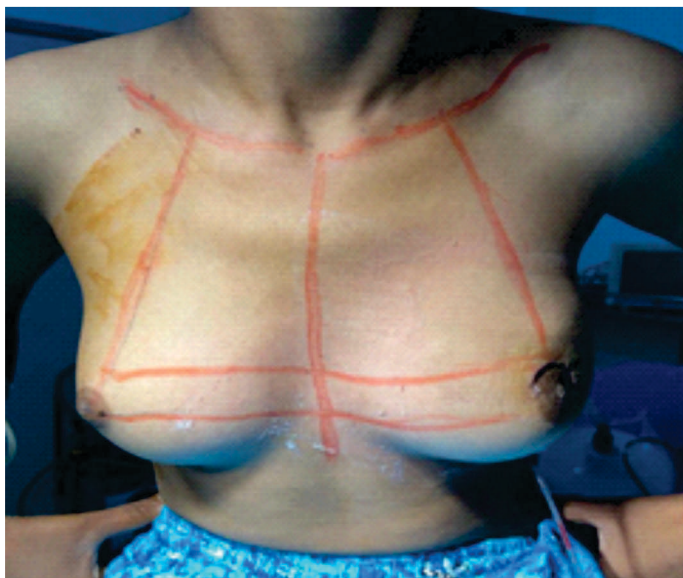


Figure 4: Post-operative images showing restored symmetry of nipple

Intra-operatively, the tumor was 12 cm × 9 cm in size, firm, ovoid, well circumscribed with bosselated surface with nodularity [figure 5].



Figure 5: Excised specimen of fibroadenoma restored symmetry of nipple

The tumor was located deep in the subdermal layer and its posterior margin was found free from pectoralis major fascia.

The postoperative course was uneventful and the patient was discharged on postoperative day 4 after removal of the drain.

DISCUSSION

Fibroadenomas have been classified as simple fibroadenoma which is the most common variant, giant juvenile fibroadenoma, and multicentric fibroadenoma⁴. It is termed juvenile if it occurs among adolescents of 10-18 years of age⁵. The overall incidence of giant fibroadenoma is approximately 0.5%-2% of fibroadenomas and is the most common cause of unilateral macromastia in younger age groups.²

The etiology is unclear. Hormonal theories exist which implicate excess estrogen stimulation, increased estrogen receptors, or decreased estrogen antagonist activity in the breast.⁶

Two variants of fibroadenoma have been described by Dupont in his study from Nashville as simple and complex fibroadenoma. Most fibroadenomas look the same all over histologically, these are simple variant. Complex variant shows presence of foci of cysts, sclerosing adenosis, epithelial calcifications, and papillary apocrine metaplasia and has a higher future risk of malignancy.⁷

Initially, it is difficult to diagnose giant fibroadenoma with physical examination because of the converging clinical presentation of large mass leading to asymmetrical breasts, skin changes, or deviation of nipple areola complex. Radiological investigations include ultrasonography and mammography for routine imaging along with magnetic resonance imaging in selected cases.

Preoperative cytology (FNAC) plays a key role for the diagnosis and to come to a diagnosis; however, its role for differentiating giant fibroadenoma and borderline phyllodes has been difficult due to overlapping of some of their microscopic morphological features.⁸

Potential treatment options include simple excision with cosmetically appealing incisions in the inframammary fold or circumareolar region, reduction mammoplasty, and in some cases mastectomy with reconstruction.⁹

However, focus is on simple excision of the lesion wherever applicable especially in adolescent age groups. Hille-Betz et al suggested simple excision of the mass using an inframammary or circumareolar approach without reconstructive plasty that showed good cosmetic results along with postoperative outcomes while on follow-up in their retrospective study of 13 patients where eight had diagnosed fibroadenoma. Park and colleagues assessed nine patients among which seven underwent reduction mammoplasty which was directed to reduce the amount of extra skin and immediately reestablish breast asymmetry; however, this approach results in longer,

and often more conspicuous, scarring as well as the typical risks associated with reduction mammoplasty/mastopexy.⁹

CONCLUSION

Juvenile breast lesions are rare. We opine that it would be an ideal approach to meticulously plan a surgery so that not only a complete resection is done but also a good cosmetic outcome is obtained. It goes a long way in decreasing psychological stress and anxiety of a young growing adolescent mind which might happen if the post-operative scar is unsightly.

CONFLICTS OF INTEREST: None

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