Case Report

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Giant fibroadenoma of the breast: a benign breast mass mimicking malignancy

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ABSTRACT

Fibroadenoma is a common benign lesion of the breast that usually occurs in young females. Giant fibroadenoma of the breast is a rare benign pathology, which is defined as fibroadenoma greater than 5 cm in size and/or weighs more than 500 g. It is usually found in adolescent women. A 37-year-old woman undergoing treatment for infertility was referred to the breast clinic with an ulcerating left breast lump that had progressively increased in size. Examination showed a fungating left breast mass that obliterated the nipple-areola complex. Ultrasound showed a large soft tissue mass in the left breast with enlarged left axillary lymph nodes. Computed tomographic (CT) scan showed a 13×17 cm left breast mass. Core biopsy of this mass reported possibility of phyllodes tumor, while axillary fine-needle aspiration cytology (FNAC) showed no evidence of malignancy. Total mastectomy with immediate reconstruction using silicone implant was performed. Final histopathology reported giant fibroadenoma. Most cases on giant fibroadenoma reported in literature are limited to adolescent or young females, however, our patient was relatively old, which makes this a rare case.

Keywords: Giant fibroadenoma, Phyllodes tumor, Breast cancer

INTRODUCTION

Fibroadenoma of the breast is a common benign lesion in women under 30 years of age. They consist of proliferating epithelial and stromal tissue, resembling phyllodes tumors, and are considered hyperplastic lesions rather than true neoplasms. Giant fibroadenomas are a rare subtype of fibroadenomas classified when it its size is greater than 5 cm and/or weighs more than 500 g. They usually occur in adolescent women or older females during pregnancy or lactation. Giant fibroadenomas are fast-growing masses that can cause dilated veins and occasionally skin ulceration, masquerading as a malignant breast neoplasm. We report a case of a 37-year-old woman with a giant fibroadenoma and discuss the challenges we faced in her diagnosis and management.

CASE REPORT

A 37-year-old woman was referred to the breast clinic by the gynecologist for abnormally large left breast mass. The mass had rapidly increased in size for the past 1 year, but did not seek any medical attention. Her menstrual cycles were not regular and she was on hormone therapy for infertility. She denied any family history of breast malignancy. Clinical examination showed a giant fungating and ulcerating left breast mass with thickening of surrounding skin and dilated veins, suggestive of a locally advanced breast tumor (Figure 1). Ultrasound showed a large hypoechoic left breast mass with multiple enlarged left axillary lymph nodes. Computed tomographic (CT) scan showed a huge lobulated soft tissue mass measuring 13×17 cm with loss of normal fat plane

with the overlying skin and abutting the pectoralis muscle posteriorly, but no evidence of distant metastasis. Tru-cut biopsy reported possibility of phyllodes tumor, while fine-needle aspiration cytology (FNAC) of left axillary lymph node showed no evidence of malignant cells. The patient underwent total mastectomy and immediate reconstruction using silicone implant (Figure 2). The final histological diagnosis was giant fibroadenoma of the breast.



Figure 1: Large left breast mass with ulceration on physical examination.



Figure 2: Left simple mastectomy with immediate implant reconstruction.



Figure 3: Excised breast specimen after total mastectomy.

DISCUSSION

Although fibroadenomas are common benign lesions of the breast, giant fibroadenomas are extremely rare. Their rapid growth is associated with increased levels of estrogen, progesterone and prolactin.⁵ In our case, the accelerated growth of her left breast tissue could have been triggered by use of clomiphene for infertility.

Initially, we suspected a sinister pathology, such as breast cancer or malignant phyllodes tumor, due to the extremely large breast size with rapid growth, accompanied with ulceration. The differential diagnoses of fibroadenoma and phyllodes tumor is important due to differences in treatment strategies. It is usually difficult to distinguish between these two pathologies due to significant overlap in their imaging features.⁶ Fibroadenomas can be followed up with ultrasound or simply enucleated, while phyllodes tumors must be resected with adequate margins to prevent local recurrence.7 Because tru-cut biopsy may yield indeterminate results, the final diagnosis is usually made on pathological examination of the resected breast tissue.1 Diagnostic biopsies are commonly performed, but in breast tumors with rapid growth, the safest method remains complete surgical excision to rule out malignancy.3 In our case, the pathological diagnosis of giant fibroadenoma was made on examination of the resected specimen (Figure 3).

There are no standardized treatment guidelines, owing to the rarity of these tumors. In giant fibroadenomas encompassing more than 50% of the surrounding normal breast parenchyma and the nipple-areola complex, such as in our case, a more aggressive approach (mastectomy) is warranted.³ Skin grafting or breast reconstruction is necessary, as most of the breast parenchyma has been destroyed by the mass.⁸ Detailed preoperative counseling is important to manage a patient's expectations and ensure patient satisfaction.⁹

CONCLUSION

Giant fungating and ulcerating fibroadenomas in young women are rare. Risks of hormonal therapy for infertility with regards to breast masses should be highlighted. Early referral to breast surgeon is required for patients with rapidly enlarging breast masses. Skin grafting or breast reconstruction may be needed for patients who undergo mastectomy for a giant fibroadenoma.

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