

Giant fibroadenoma of the breast: A case report of a 37-year-old woman during the second trimester of pregnancy

Memenin dev fibroadenomu: Gebeliğin ikinci trimesterinde olan 37 yaşında kadın olgu sunumu

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Abstract

Fibroadenomas are the most common benign breast tumors in young women aged between 20-30 years. Giant fibroadenomas are often larger than 5 cm, weigh more than 500 g or occupy 80% of the breast. They can mimic malignant tumors because they grow rapidly and cause breast deformity. We present a young female patient, in the second trimester of her pregnancy, who had a rapidly growing giant fibroadenoma. Since the mass was suspected of malignancy and caused deformity in the breast, surgical excision was indicated. The operation was performed without complications and the patient was discharged on the second postoperative day. Although the second trimester is suitable for semielective surgeries that cannot be postponed, the timing of the operation is decided by a multidisciplinary team including surgeons, anesthesiologists, obstetricians and perinatologists.

Keywords: Fibroadenoma, Phyllodes tumor, Pregnancy

Öz

Fibroadenomlar, 20-30 yaş arası genç kadınlarda en sık görülen benign meme tümörleridir. Dev fibroadenomlar genellikle 5 cm'den daha büyük boyuta sahip, 500 g'dan daha ağırdır veya memenin % 80'ini kaplarlar. Büyüme hızları ve meme deformitesine neden olabilmeleri nedeniyle malign tümörleri taklit edebilirler. Hamileliğin ikinci trimesterinde ve hızla büyüyen dev fibroadenomu olan genç bir kadın hastayı sunuyoruz. Kitlenin malignite şüphesi olması ve memede deformiteye yol açması nedeniyle cerrahi eksizyon önerildi. Ameliyat komplikasyonsuz gerçekleşti ve hasta ameliyat sonrası ikinci gününde taburcu edildi. İkinci trimester ertelenemeyen semielektif cerrahiler için uygun olsa da, operasyonun zamanlamasına cerrahlar, anesteziistler, kadın doğum uzmanları ve perinatologlar dahil olmak üzere multidisipliner bir ekip tarafından karar verilir.

Anahtar kelimeler: Fibroadenom, Filloid tümör, Gebelik

Introduction

Fibroadenomas, the most common benign tumors of the breast, contain stromal and epithelial elements. The overall incidences of fibroadenomas in adolescents and women older than 30 years are 2.2% and 18%, respectively, and account for nearly 70% of all breast masses [1,2]. Fibroadenomas are generally small breast lumps that can increase in size but rarely to greater than 3 cm [3]. Spontaneous regression is also possible after menopause. The size of the adenoma can change as a response to the hormonal changes during menstrual cycles and pregnancy. The clinical presentation is most commonly an asymptomatic, painless breast mass. Giant fibroadenomas are rare benign lesions usually found in patients under 20 years of age and defined as fibroadenomas >5 cm in size, heavier than 500 g, or occupying more than 80% of the breast [4]. Although it is a benign lesion, its dimensions suggest a possible malignancy and a differential diagnosis from malignant breast masses should be made. We present a 37-year-old pregnant woman in the 17th gestational week who had a giant fibroadenoma in her right breast, which showed an approximately two-fold increase in size within 6 months.

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Informed Consent: The authors stated that the written consent was obtained from the patients presented with images in the study.

Hasta Onamı: Yazarlar çalışmada görüntüleri ile sunulan hastalardan yazılı onam alındığını ifade etmiştir.

Conflict of Interest: No conflict of interest was declared by the authors.

Çıkar Çatışması: Yazarlar çıkar çatışması bildirmemişlerdir.

Financial Disclosure: The authors declared that this study has received no financial support.

Finansal Destek: Yazarlar bu çalışma için finansal destek almadıklarını beyan etmişlerdir.

Published: 7/28/2020

Yayın Tarihi: 28.07.2020

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Case presentation

A 37-year-old, 17-weeks-pregnant woman presented to the general surgery outpatient clinic with a giant mass in the right breast, which she noticed 6 months ago. She had no known additional diseases. Breast ultrasonography revealed a solid mass lesion with lobulated contours, 6 cm in diameter, which could not be distinguished from a phyllodes tumor. Follow-up was decided.

The patient re-applied 6 months later due to rapid growth of the mass with pregnancy. In clinical examination, a mass larger than 10 cm was detected, which met the criteria of a benign mass lesion. Ultrasonographic examination revealed a solid mass, 10x94x70mm in size, containing microcystic areas with lobulated contours filling the periphery of the right outer lower quadrant. The ultrasound and biopsy examination did not distinguish the mass from phyllodes tumor for certain.

Due to the rapid growth and progressive deformation of the breast, lumpectomy was recommended, and surgery was performed without any perioperative and postoperative complications, considering the stage of the pregnancy. Pathological examination reported the tumor size as 13x11x5 cm (Figure 1). Histopathological examination of the mass was compatible with fibroadenoma with increased stromal tissue, and cellularity and proliferation in epithelial cells (Figure 2). Safety of the fetus was ensured by perioperative and postoperative follow-up. At the third month follow-up, bilateral breasts were symmetrical and wound healing was rapid without any infection or complications. Written informed consent was obtained from the patient.



Figure 1: Large, well-circumscribed, nodular right breast mass measuring 13x11x5 cm in size on physical examination

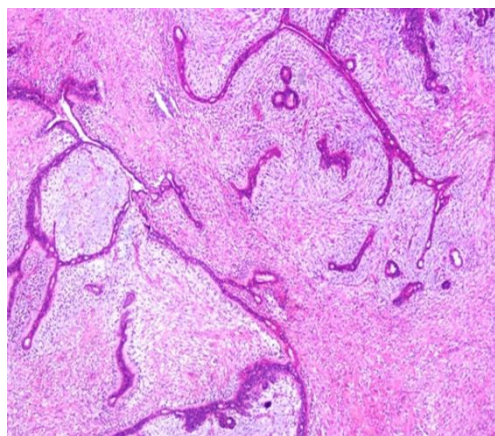


Figure 2: Histopathological examination of the mass was compatible with fibroadenoma with typical stromal and epithelial proliferation (hematoxylin and eosin, magnification $\times 100$).

Discussion

Fibroadenomas arise from the terminal ductal lobular unit. The etiology is not clear, but it is believed result from an abnormal response to hormonal stimulation. With hormonal changes during pregnancy, proliferative changes occur in the ductal and alveolar elements. There is lobular hyperplasia, hyperemia and fluid retention in breast tissue. Milk synthesis in the mammary gland begins in the second trimester of pregnancy. Towards the end of pregnancy, secretion begins from the alveoli and the parenchyma largely replaces the stromal tissue. The increase in the size and incidence of fibroadenomas during pregnancy seems to be linked to increased estrogen, progesterone, placental prolactin, and other growth factors levels. Fibroadenomas may undergo spontaneous infarction and necrotic-calcified degeneration, especially due to their rapid growth during pregnancy and lack of vascularity. A history of oral contraceptive use before the age of 20 also causes an increase in incidence [5,6]. Fibroadenomas are divided into simple, complex, giant, and juvenile types. Those greater than 5 cm in diameter or 500 g in weight are named giant fibroadenomas. If seen in patients between 10-18 years old, they are called juvenile fibroadenomas [7]. They tend to grow fast but may shrink after adolescence. Phyllodes tumor should be suspected in fast growing palpable breast masses over 3 cm [8].

Ultrasonography is the preferred diagnostic method for fibroadenomas. Distinct features include a round or ovoid, well-circumscribed, macrolobulated hypoechoic mass. Mammography demonstrates a well-circumscribed macrolobulated mass, sometimes with a classic or popcorn calcification, especially in older women. Due to the use of gadolinium in breast MRI (magnetic resonance imaging) and the radiation exposure during mammography, the diagnostic imaging method is primarily ultrasonography in pregnant women. Mammography should be performed with a lead shield to ensure the safety of the fetus. Gold standard for histopathological diagnosis of a fibroadenoma is core needle biopsy. The incidence of malignancy development from fibroadenomas is less than 1%. The low incidence of cancer development and slowly growing or shrinking nature of fibroadenomas support observation of the mass, particularly in biopsy-proven cases [9].

Phyllodes tumors are rare, fibroadenoma-like structures which should be handled carefully. They may be confused with breast fibroadenomas clinically, radiologically and histopathologically [10]. They constitute less than 1% of all breast tumors and can be seen at any age but are mostly observed starting from the fourth decade [11]. They tend to grow quickly. Most of the phyllodes tumors are benign but malignant and borderline tumors can also be seen. Approximately 20% of phyllodes tumors emerge as a non-palpable mass revealed by screening mammography. Diagnosis can be obtained with a core needle or excisional biopsy. Core needle biopsy sometimes isn't adequate to diagnose phyllodes tumors [12]. Surgical treatment of benign, borderline or malignant phyllodes tumors comprises wide excision of the tumor with at least 1 cm negative surgical margin [13].

Fibroadenomas of typical appearance emerging during pregnancy can be monitored closely by clinical examination and ultrasound imaging. Biopsy may be performed according to the

size of the fibroadenoma. Fibroadenomas of atypical appearance detected during pregnancy should be biopsied first. Close monitoring is not necessary if fibroadenomas detected before pregnancy remain stable during pregnancy. Clinical and ultrasound follow-up is recommended if there is no more than 20% increase in size compared to previous imagings and in case of benign appearance. Biopsy is performed in the presence of significant increase in size and suspicious morphological changes. Close monitoring is recommended for multiple fibroadenomas of typical appearance, but biopsy should be performed in case of a suspicious nodule [14].

In our case, since the possibility of malignancy could not be eliminated with preoperative examinations, the mass was managed with a multidisciplinary team to protect the fetus and apply the correct approach during the treatment. The first trimester is the initial phase of fetal organogenesis, during which drug-induced fetal defect is higher. Preterm delivery risk is increased in the third trimester. Second trimester is considered the optimal time for elective surgery in pregnant patients [14,15]. The fetus should be monitored closely due to potential teratogenic effect of anesthetic agents administered during pregnancy.

Conclusions

We presented a rare case of a young female patient who is in the second trimester of pregnancy and has a fast growing giant fibroadenoma. Treatment decisions are best made with the guidance of a multidisciplinary team and should include discussions about specific approaches to breast masses and protecting the fetus during the treatment.

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