Case Report
Volume 11:3, 2021

Clinical Case Reports

ISSN: 2165-7920 Open Access

Fibroadenoma of the Breast in Identical Twin: A Case Report

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Abstract

Fibroadenoma is a painless, unilateral, benign breast lesion that is a solid in consistency. It occurs most commonly in women between the age of 14 to 35 years but can be found at any age. This is a case report for a young twin who presented to the one stop clinic with a unilateral breast lump in the right upper quadrant of the breast. Both patients were assessed clinically by obtaining detailed history and clinical examination and further evaluation of the lump was done by ultrasound examination, which confirmed diagnosis and patients were reassured and treated conservatively.

Keywords: Fibroadenoma • Breast lump • Intralobular stroma • Pregnancy • Menopause

Introduction

Fibroadenomas of the breast are benign neoplasms, which most often occur during the developmental phase of the breast and are poorly understood because of their unpredictable behaviour [1-3]. They are the most common breast lesion affecting females under the age of 25 after that the incidence starts to decrease with age specially at menopause [2].

Histologically fibroadenomas are benign fibroepithelial lesions composed of stromal and epithelial components, with intralobular stroma enclosing glandular spaces lined by luminal epithelium and myoepithelium [4]. The usual presentation of presentation is a single firm they slowly growing, mass, however, synchronous and metachronous multifocal lesions have also been described [5]. Genes responsible for fibroadenoma is currently are unknown, patients with Carney complex may develop bilateral or multiple myxoid fibroadenomas, and bilateral and/or multiple fibroadenomas have been significantly associated with family history [6, 7].

Although the exact aetiology for fibroadenomas is still unclear, several studies have shown that exposure to endogenous and exogenous hormones have been linked to formation of fibroadenoma [8-10]. A study showed that pregnancy can decrease the risk of developing fibroadenoma, another factor that can decrease risk of fibroadenoma is using combined oral contraceptive by suppressing ovarian hormones production which may alter breast sensitivity to circulating endogenous hormones [11] (Figure 1). Previous studies showed that cigarette smoking also reduces the risk of developing fibroadenoma [12, 13]. An earlier study suggested that dietary intake can be linked to fibroadenoma and with a diet rich in fruits and vegetables risk of fibroadenoma decreases but, there is no evidence that consumption of red meat, fried food and sweet can increase the risk of fibroadenoma (Figure 2). Earlier reports showed that family history and fibroadenoma has been linked to one another [14-16]. However, the possible increase in risk in women with a family history of breast cancer could result from shared environmental or genetic risk factors [17].

Case Study

An identical twin sister 19 years old presented to the one stop breast clinic with 2 weeks history of right breast lump while self-examining the lump was non painful and remained of the same size. One sister noticed this lump a week earlier than the other, there was no associated mastalgia nor nipple discharge, and both patients denied any history of trauma to the breast. No previous breast surgery nor breast pathology. There is a family history of breast cancer where maternal grandmother and great aunt had breast cancer after the age of 60 years old, however, no family history of breast fibroadenoma [18]. Both patients were using combined hormonal oral contraceptive, with no significant past medical history or co-morbidities. Age of menarche was 14 years for both sister and they both had regular menstrual period, both were non-smoker (Figure 3). On examining the patients there was a 2x2cm rounded firm lesion in right upper outer quadrant the mass was in the same place and about the same size for the twins, mass was mobile, not attached to skin nor

Figure 1. US images of the first twin.

Figure 2. US images of the first twin.

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Received 02 February; 2021 **Accepted** 16 February;2021 **Published** 23 February; 2021

Figure 3. US images of the second twin.

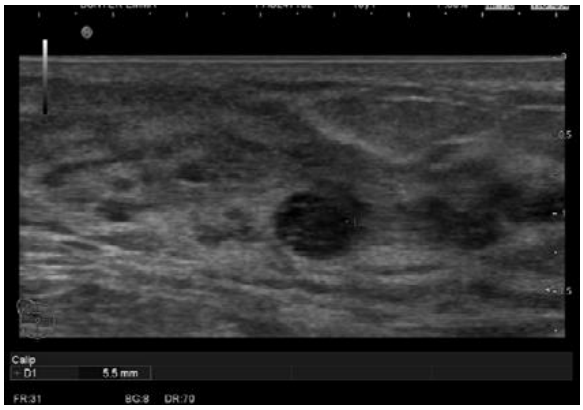

Figure 4. US images of the second twin.

muscle was. Left breast examination and axilla and supraclavicular region was unremarkable (Figure 4). Ultrasound of both sisters showed a well-defined homogenous mass typical of fibroadenoma in one sister lump measured 4.2x6.7 mm and in the other sister it was slightly larger measuring 15x16 mm. No biopsies were taken from lesion and both patients opted for conservative management [19, 20].

Result and Conclusion

Fibroadenoma is a common benign disease that is more common between the age of 15 to 34 however, it still can happen at any age. Fibroadenomas shrink after menopause, and therefore, are less common in post-menopausal women. They are often referred to as a breast mouse due to their high mobility. Several hormonal risk factors for fibroadenoma have been identified and family history can also contribute in development of breast fibroadenoma. There is a case report of multiple fibroadenoma in twin that was published in 1982. History taking and physical examination can differentiate fibroadenoma from other breast lesions. Ultrasound is the preferred method of examination specially for females below the age of 35 and management is usually conservative. Most fibroadenomas tend to grow slowly and remain the same size for several months or years. They often lose their cellularity with aging. The overall rate of complete regression of a clinically palpable breast mass in an adolescent is between 10% and 40%. Regression may occur due to infarction with calcification and hyalinization. Several studies have reported that fibroadenomas is not associated with increased risk for developing breast carcinoma.

An identical twin recently presented to one stop breast clinic with a breast mass that was investigated and a diagnosed as a fibroadenoma, suggesting that fibroadenoma can be have a genetic root.

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How to cite this article: Badawi, Marwa and Ahmed Shalaby. "Fibroadenoma of the Breast in Identical Twin: A Case Report." *Clin Case Rep* 11 (2021): 1420