

A Rare Presentation of a Breast Hamartoma in a Male Patient

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Abstract

Breast hamartomas account for less than 5% of benign breast masses and are exceedingly rare in males, with only a few reported cases. We present an 89-year-old man with a progressively enlarging, painless right breast mass. Mammography and ultrasound demonstrated a large, encapsulated mass with fibroglandular density measuring $11 \times 9 \times 10$ cm. Ultrasound-guided core needle biopsy showed discordant findings, prompting surgical management. The patient underwent right modified radical mastectomy, and final histopathology confirmed mammary hamartoma. Awareness of this rare entity in males may improve diagnosis, guide management, and help prevent overtreatment.

Keywords: Breast hamartoma; Case report; Male breast mass; Breast cancer

Introduction

Breast hamartomas account for less than 5% of benign breast masses. While first described in 1968, these masses are infrequently encountered and are often misdiagnosed. Initially referred to as “lipofibroadenomas” or adenolipomas”, hamartomas are a combination of glandular epithelium, adipose tissue, and fibrous tissue, but with a clear boundary against normal breast tissues [1-2]. Hamartomas are generally considered to result from tissue dysplasia. Clinically, they commonly present as an asymptomatic single well-circumscribed mass [2]. Breast hamartomas are rare in the female population and practically nonexistent in males, with less than five cases reported to date, to our knowledge [3-6]. Here, we present a case of a male patient presenting with an asymptomatic breast hamartoma.

Case Presentation

An 89-year-old man with a past medical history significant for atrial fibrillation on warfarin, bladder cancer status post-surgical management, hypertension, type 2 diabetes mellitus, and hyperlipidemia presented for evaluation of a right breast mass. The patient first noticed the right breast mass in 2012, when it was smaller. He stated that the mass had progressively increased in size over more than a decade, prompting re-evaluation.

He denied breast pain, overlying skin changes, nipple inversion, nipple discharge, or skin retraction. There were no associated systemic symptoms. On physical examination, a large palpable mass was appreciated in the right breast. The overlying skin appeared normal, with no erythema, dimpling, or nipple abnormalities. No axillary or supraclavicular lymphadenopathy was noted.

Diagnostic imaging obtained in October 2023 included mammography and ultrasound, which demonstrated a large, encapsulated mass with fibroglandular density measuring $11 \times 9 \times 10$ cm (Figure 1). Review of prior imaging from 2012 revealed a smaller, similar-appearing right breast mass categorized as BI-RADS 4, in the setting of scattered fibroglandular density. A biopsy performed a year later showed fibrofatty tissue with mild atypia. The mass was further evaluated with MRI, which demonstrated a well-circumscribed, encapsulated mass measuring $9.3 \times 9.3 \times 8.6$ cm (Figure 2), with heterogeneous enhancement and alternating areas of interposed fat. The lesion was noted to abut the pectoralis major muscle without evidence of invasion. No abnormal axillary or internal mammary lymph nodes were identified. The MRI findings were assessed as BI-RADS 3. An ultrasound-guided core needle biopsy was subsequently performed, which revealed fibroadipose tissue with fat necrosis and fibrosis, with an absence of breast ducts and lobules. These findings were considered discordant with imaging, prompting surgical management.

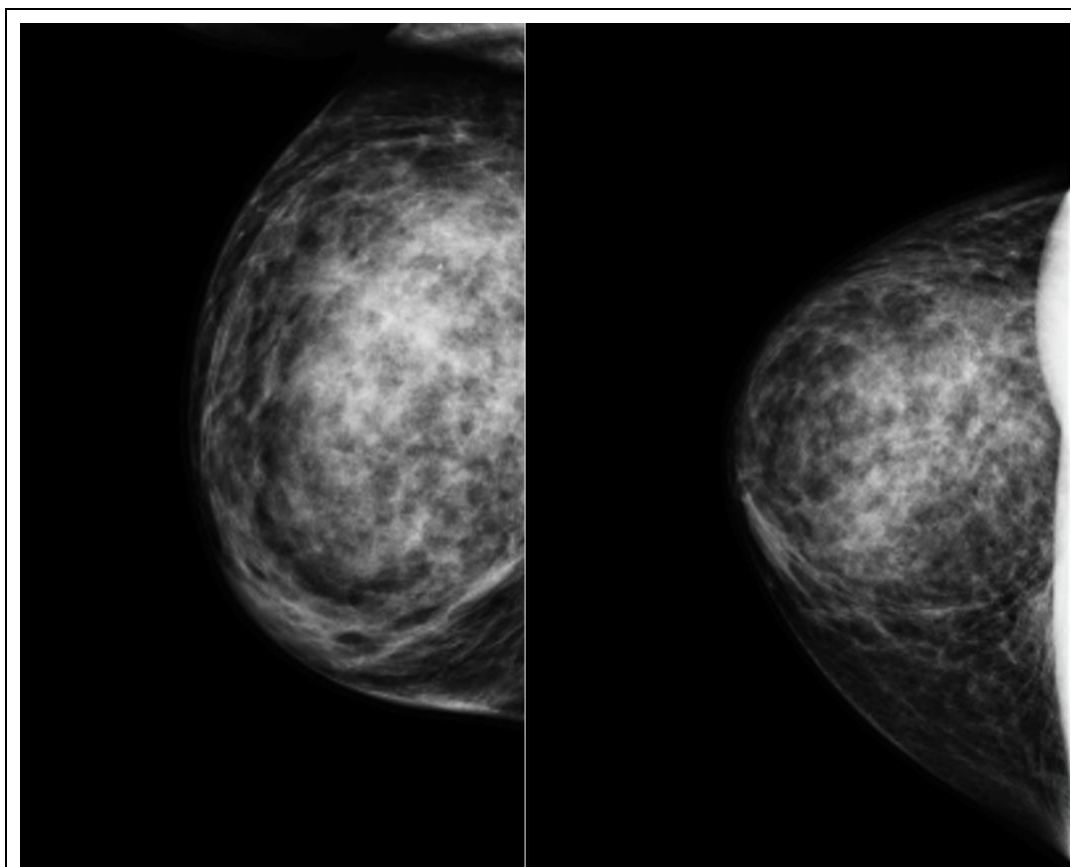
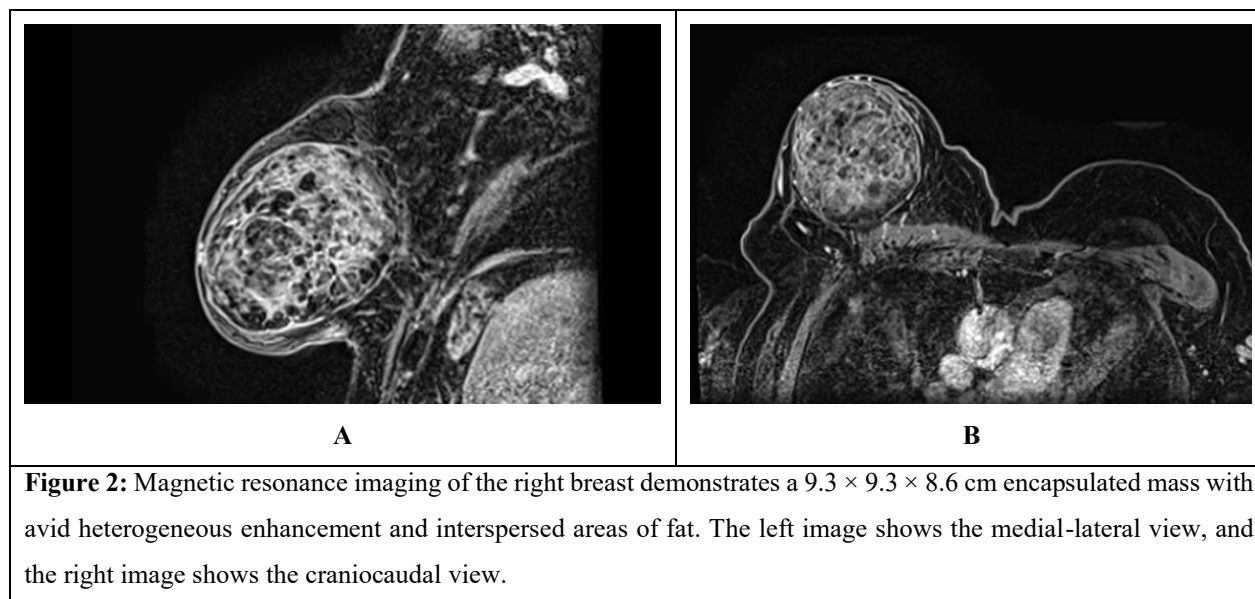


Figure 1: Diagnostic mammogram of the right breast demonstrates an $11 \times 9 \times 10$ cm mass composed of fibroglandular tissue. The left image shows the craniocaudal view, and the right image shows the medial-lateral view.

The patient underwent a right-modified radical mastectomy. Final histopathologic examination revealed a well-circumscribed lesion composed predominantly of adipose tissue, with scant fibrous tissue, muscle, dilated vessels, and breast elements arranged in a disorganized manner. The findings were consistent with a mammary hamartoma with predominance of adipose tissue. No evidence of malignancy was identified. On annul follow up, patient was noted to be recovering well. Right mastectomy flaps were found to be viable and incisions well healed.



Discussion

Hamartomas typically present in premenopausal women around the age of 40 and are typically around 5cm in size [2,7]. While only a handful of cases have been reported in men, hamartomas are likely to present at an older age and greater size compared to females, as regular breast screening is not commonly performed and males are less likely to perform self-exams. In the case presented, given the interval growth, imaging characteristics, and the patient's sex, our differential diagnosis for this lesion included lipoma, liposarcoma, phyllodes tumor, fibroadenoma, gynecomastia, and male breast carcinoma.

Imaging aids diagnosis, as hamartomas have specific imaging characteristics. On ultrasound, the echogenicity and uniformity of a lesion differ depending on the proportions of the lesion's components [8]. As such, hamartomas appear as hypoechoic or mixed-echo oval or quasi-circular masses with clear boundaries, depending on the amount of fat and fibroglandular components [2,3]. Similar to ultrasound, hamartomas are radio-opaque and radiotransparent due to differences in tissue density [9]. They have an uneven central density, a smooth edge, and often a thin pseudo-capsule on mammography [3]. The scattered lobular opacities dispersed with this transparent pseudo capsule are often described as “slices of salami” [9-10]. While hamartomas have these unique imaging characteristics, only histology provides a definitive diagnosis. Pathologically, hamartomas consist of disorganized breast tissues, containing various portions of fibrous stroma, adipose tissue, and smooth muscle [7]. Hamartomas may also contain ducts and lobules of various shapes and sizes. Similar to normal breast parenchyma, these lesions may express estrogen receptor (ER) and progesterone receptor (PR), suggesting a hormonal role in the pathogenesis of hamartomas [11-12].

Accepted treatment is surgical resection, often as a lumpectomy to preserve the integrity of the capsule. Recurrence is uncommon, reported to be less than 10%, and most cases are often thought to be due to multifocal disease [4]. Nevertheless, follow-up imaging is recommended to monitor for recurrence.

Conclusion

Breast hamartomas are benign lesions most described in premenopausal women and are rarely reported in male patients. While characteristic imaging features may suggest the diagnosis, histopathologic evaluation is critical for definitive confirmation, particularly in male patients in whom breast malignancy must be excluded. Due to its rarity in this population, imaging findings must be correlated with pathology in elderly men presenting with enlarging breast masses. Increased awareness of this rare entity in male patients may help guide appropriate management and prevent overtreatment.

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