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“Breast within a breast” sign: Mammary hamartoma

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ABSTRACT

Breast hamartomas are uncommon benign tumors of the breast. Imaging appearance of a breast hamartoma can vary widely. “Breast within a breast” sign on mammography is considered pathognomonic of this unusual entity. We describe mammographic and Magnetic Resonance Imaging (MRI) appearance of a case of hamartoma breast.

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Introduction

Hamartomas are benign lesions of the breast. Other names such as fibroadenolipoma, lipofibroadenoma and adenolipoma are used and reflect the dominant tissue within the lesion. Smooth muscle and chondroid elements may be dominant in some cases, the nomenclature of such lesions being myoid hamartoma and chondrolipoma respectively.¹ Hamartomas have a reported incidence of 1.2% of benign lesions, however with the increasing use of screening mammography, more hamartomas are being identified.² They are generally found in women above 35 years of age, with size ranging from 10 mm to 170 mm,³ and are presumed to be due

to dysgenesis rather than being a true tumor.¹ Most lesions, especially the small ones are asymptomatic being picked up as incidental findings on screening mammography. Large lesions if fatty, may remain non-palpable, whereas lesions with predominant fibrous components may mimic fibroadenomas or well-circumscribed carcinomas.

Clinical and imaging findings

A 40 year old female patient presented to the surgical outpatient department with complaints of gradual, painless increase in the size of the right breast. On clinical examination there was diffuse enlargement of the right breast. No definite

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Fig. 1 – (a) and (b) – Digital mammograms, medio-lateral oblique (MLO) and cranio-caudad (CC) projections of the right breast showing an large ovoid, encapsulated mass lesion with a 'breast within a breast' appearance.

mass lesion was palpable and there was no axillary lymphadenopathy. Clinical examination of the opposite breast was normal.

Digital mammography of both breasts was done with the medio-lateral oblique and cranio-caudad projections. A well circumscribed, ovoid mass lesion was noted in the right breast measuring 167×127 mm. The mass lesion was well encapsulated and had soft tissue and fat densities within giving a 'breast within a breast appearance' (Fig. 1a and b). There were no macro or microcalcifications within. The skin and the nipple-areola complex were normal and there was no axillary lymphadenopathy. The opposite breast was normal.

Magnetic resonance imaging (MRI) of the breasts was done which revealed an encapsulated mass in the right breast with heterogenous signal intensities within, confirming to the fatty and fibroglandular elements. The fibroglandular elements exhibited contrast enhancement similar to the normal glandular tissue (Fig. 2a and b).

A diagnosis of hamartoma was made based on the classical appearance on mammography and MRI. The patient underwent surgery with excision of the mass.

Discussion

Mammary hamartomas were first reported by Arrigoni et al.⁴ in 1971 as well circumscribed breast lesions containing varying amounts of benign fibroglandular elements and fat.⁴ The classical appearance of a hamartoma on mammography is diagnostic. A well circumscribed lesion containing fat and soft tissue density surrounded by a capsule gives a "breast within a breast" or a "cut sausage" appearance⁴ as was seen in our case. The capsule in most cases is a pseudocapsule and results from displacement of the normal breast parenchyma.⁵ Lesions containing little fat with

Fig. 2 – (a) and (b) - T1 weighted and post-contrast T1 weighted, subtraction axial images showing the well encapsulated mass lesion in the right breast with signal intensities confirming to fat and fibro-glandular tissue.

dominance of fibrous or fibroglandular elements may pose a diagnostic challenge with the fibroadenoma or a well circumscribed carcinoma remaining important differentials.

The MRI appearance of a hamartoma is that of an encapsulated mass with fat and fibro-glandular signal intensity. The fibro-glandular elements may exhibit some contrast enhancement.⁶

On ultrasonography, hamartomas are well circumscribed, compressible, 'wider than tall' lesions without any micro-calcifications. The internal echotexture is either hyperechoic or having mixed echogenecity. There is no retrotumour acoustic phenomenon.⁷

The classic mammographic appearance of a hamartoma is virtually diagnostic and no further follow-up or intervention is required. In case the lesion is palpable, symptomatic or the patient bothered by the mass, excision of the mass can be done. Malignancy within a hamartoma is extremely rare¹ and therefore an aggressive management is not warranted.

Conflicts of interest

All authors have none to declare.

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