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HAMARTOMA OF THE BREAST PRESENTING AS MUCINOUS CARCINOMA-AN UNUSUAL CASE

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ABSTRACT
A breast hamartoma, also known as a fibroadenolipoma, is a solid, rare benign mass that forms in the soft tissue of the breast. Breast hamartoma is now more frequently diagnosed because of increased use of mammography and can be mistaken for a neoplasm. The appearance of hamartoma, reflecting the varying proportions of fat and fibroglandular tissue, is however, inconsistent on the mammogram and sonogram. We report a case of breast hamartoma in a 47 years old female suspected to be malignant by mammography, sonography and fine needle aspiration cytology but histopathology confirmed the diagnosis.

INTRODUCTION

Breast hamartoma is a relatively rare benign tumor. It was first proposed by Arrigoni et al, [1] that variable amount of fat, fibrous and glandular tissue constitutes this tumor. It is also referred as lipofibroadenoma, fibroadenolipoma or adenolipoma based on the predominant components [2]. The frequency of this tumor has been reported as between 0.04%-1.15% [3] and accounts for 4.8% of all benign breast tumors [4]. Because of the varied appearance in sonogram, [5] this tumor is usually diagnosed by mammographic examination. In addition, more occult hamartomas can be recognized by screening mammography. Therefore, it is important for all radiologists to be familiar with the various radiologic manifestations of breast hamartoma.

CASE SUMMARY

A 47 year old female presented with non tender, mobile, irregular lump in upper outer quadrant of the left breast for a number of years. She came to our clinics because of the recent progressive enlargement of this lump. Though there was local warmth, there was no history of trauma, nipple discharge or skin changes in the recent past, but there was history of inadequate lactation for both her children. On further examination, an irregular 4.5 cm x 2.5 cm rubbery lump in the upper outer quadrant of the left breast which had ill-defined margins but was not fixed to the skin or underlying fascia was noticed. There were no palpable axillary lymph nodes. Ultrasonography revealed a small radio-opaque lesion with ill-defined margins in the left upper outer quadrant and mammography showed an ill-defined, 4.5 x 2.5 cm mass with a radiolucent periphery and moderately radio-opaque center.

FNAC of the lump was suggestive of mucinous carcinoma. The patient was taken up for wide excision of the lump under general anaesthesia. Gross examination of the breast tissue did not reveal any apparent mass lesion. (Figure 1). The specimen was formalin fixed, paraffin embedded, cut into 3-4 µm sections and haematoxylin and eosin stained. Histology revealed an ill-defined lobular architecture with few intact lobules and ducts situated

within abundant dense hyalinised connective tissue and tissue. (Figure2). There was no evidence of hyperplasia, dysplasia, metaplasia or malignancy in the epithelial or mucoid stroma admixed with normal breast stromal elements (Figure 3). The histopathological diagnosis of the lump was reported to be a hamartoma.

Figure 1. Mammary Hamartoma: Gross examination of the breast revealed no apparent lump.

Figure 2. Mammary Hamartoma: Histology revealed an ill-defined lobular architecture with few intact lobules and ducts situated within abundant dense hyalinised connective tissue and mucoid stroma admixed with normal breast tissue. Hematoxylin and Eosin x 10X.

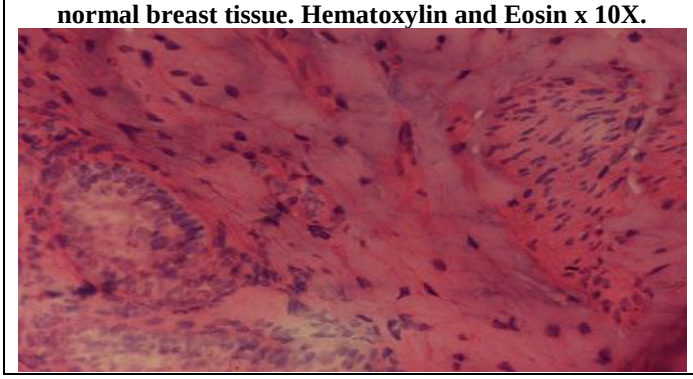
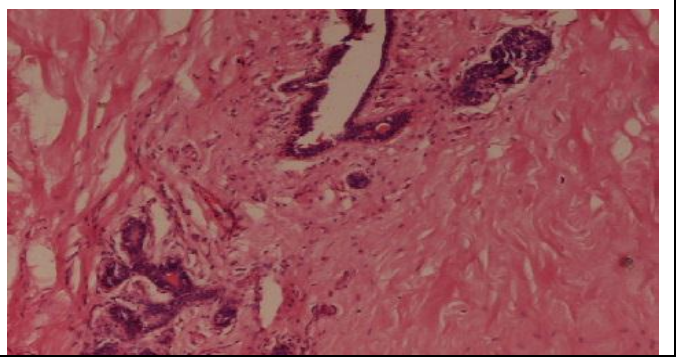


Figure 3. Mammary Hamartoma: No evidence of hyperplasia, dysplasia, metaplasia or malignancy in the epithelial or stromal elements. Hematoxylin and Eosin x 40X.



DISCUSSION

The term hamartoma was coined by Arrigoni et al [1] in 1971 as a well-circumscribed breast lesion with varying amounts of benign epithelial elements, fibrous tissue, and fat [3]. Hamartomas may originate as developmental anomalies [4]. The age distribution of our patient was comparable to the reported literatures [4,6]. Pregnancy and lactation has been considered to be related to the pathogenesis [7]. However, in the study by Chaw et al,[6] 53% of their patients were nulliparous. The lesions are usually painless and palpable as a relatively soft mass.

Hamartoma of the breast is a rare clinicopathological entity that is frequently underdiagnosed by pathologists [8,9]. The clinical presentation is that of a painless breast lump or an enlarged or slowly enlarging breast. The well-circumscribed, smooth, mobile, round mass of soft to firm consistency feels similar to normal breast tissue. The average age at presentation is about 45 years, almost 2 decades after that for fibroadenoma. There is usually no predilection for any specific location. Hamartomas do not possess specific diagnostic histological features. The role of fine needle aspiration cytology (FNAC) and core needle biopsy in making the diagnosis is limited. Tse et al [7] in a review of 25 cases of hamartoma of the breast found that core needle biopsies (4 cases) and FNAC (14 cases) were largely insufficient, inconclusive, or nonspecific. Although harmatomas are benign, coincidental malignancy can occur [10].

Breast cancer arising from a hamartoma has been reported [11]. Tse et al [12] found 2 cases showing coexisting ductal carcinoma in situ limited to within the hamartoma. Fortunately, after meticulous examination, no associated malignancy was found in the reported case.

Our case was diagnosed as mucinous carcinoma on FNA cytology, which may be due to the needle being inserted into the mucoid stroma. The pathologists may give false interpretation if not aware of the mammographic

diagnosis. But it can support the exclusion of malignancy. The characteristic mammographic appearance of hamartoma has been described as a piece of cut sausage,[3] which represents the admixture of fat and fibroglandular elements within the lesion [2,7]. The ultrasound shows sharp definition and displacement of surrounding structures. It contains sonolucent fat and echogenic fibrous components with a heterogeneous internal echo pattern [5]. Breast hamartoma is now more frequently diagnosed because of increased use of mammography and but can be mistaken for a neoplasm.

Diagnosing hamartoma of the breast is difficult, especially in biopsy or FNAC. The pathologist who sees fibrous tissue within the lobules, or fibrous tissue and fat in the stroma with or without pseudo-angiomatous changes, should be alerted to the possibility of a hamartoma. Correlation with the imaging findings and clinical impression may avoid the embarrassing situation of diagnosing "no significant pathology" in a palpable, radiologically distinct lesion. The radiologist who performs FNAC or needle core biopsy should remember that FNAC can rarely yield sufficient sample for diagnosis, and that both FNAC and needle biopsy are unlikely to provide enough information for the pathologist. Good communication of imaging findings is essential. The surgeon should also realise that although hamartomas are benign, coincidental malignancy may occur, and the issue of potential recurrences has not been resolved.

CONCLUSION

Hamartomas do not possess specific diagnostic histological features and diagnosis is therefore difficult. The role of FNAC and needle core biopsy in making the diagnosis is limited, and requires clinical and radiological correlation to avoid underdiagnosis. In contradistinction to many other benign or malignant breast lesions, the diagnosis of hamartoma can easily be missed if the clinical impression of a distinct lump or breast asymmetry and the imaging features are not taken into consideration when the biopsy is examined. The correct identification of hamartoma is important because there are the problems of recurrence and coincidental epithelial malignancy.

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