Breast Hamartomas: A Hidden Diagnosis

Fahad Alkhalfan, MD* Fatma Alabdulwahid, Saudi Board**
Noof Alshaibani, Arab Board*** Suhail Baithun, MBCHB, FRCPath****

Breast hamartomas are rare and poorly defined tumors made of glandular, adipose and fibrous tissue.

We present two cases of breast hamartomas diagnosed within one year. Mammograms performed for both patients were not suggestive of a breast hamartoma and a prospective diagnosis could only be obtained through MRI in one patient. Both diagnoses were confirmed by histopathology. Despite the increasing incidence of breast hamartomas as a result of increased screening, the diagnosis of breast hamartoma may be missed due to the variability in its mammographic and histopathological findings.

Bahrain Med Bull 2017; 39(4): 256 - 257

First described by Albrecht in 1904, breast hamartomas are rare and poorly defined tumors made of glandular, adipose and fibrous tissue[1,2]. Depending on the predominant components of the tissue, these tumors used to be classified as adenolipomas, fibro-adenolipomas or lipofibroadenomas[2]. The unifying term of breast hamartoma was coined by Arrigoni in 1971, which encompasses the various terms used to describe this lesion[1].

As a result of increased screening for breast cancer, breast hamartomas are frequently being diagnosed[3]. Despite this, the diagnosis of breast hamartoma continues to be underestimated[3].

The aim of this report is to present two patients diagnosed with breast hamartomas and their investigations.

THE CASES

Case 1

A forty-two-year-old female on long term hormone therapy for premature menopause and a strong family history of breast cancer presented to the breast clinic with a right breast mass incidentally discovered during routine breast screening. Mammogram and ultrasound (US) were both inconclusive. MRI was performed one month later and revealed a well-defined, non-enhancing lesion with a heterogeneous signal pattern suggesting that the lesion may be a hamartoma. An excisional biopsy was performed. Histopathological analysis of the lesion revealed a mixture of both epithelial and stromal cells with multifocal areas of adipose tissue and thick-walled blood vessels. These findings confirmed the diagnosis of a breast hamartoma.

Case 2

A forty-eight-year-old female presented to the breast clinic with a one-week history of a right-sided breast mass with no associated symptoms. On examination, a 2x2 cm mass was palpable in the lower inner quadrant of the right breast. Both mammogram and US were inconclusive in providing a provisional diagnosis. A core biopsy was performed, which revealed densely collagenous tissue associated with the presence of breast ducts, normal breast lobules and islands of mature fatty tissue within the stroma. Based on the results, a diagnosis of breast hamartoma was made and the tumor was excised. Histopathology confirmed the diagnosis.

DISCUSSION

Breast hamartomas account for 1.2% of all benign breast lesions[4]. Two patients presenting with this lesion in two months would normally be highly unlikely. However, it is important to consider that the incidence of hamartoma may be greater now compared to previously reported and that other cases were simply misdiagnosed. That could be due to the lack of prominent characteristic radiological and histopathological features.

While mammography is important in the diagnosis of breast hamartomas, literature has revealed that there are factors to consider when interpreting the results of this imaging modality. Due to the variable amounts of fatty, fibrous and glandular tissue in breast hamartomas, the findings on mammogram may differ[5]. Characteristically, hamartomas have been described as being compressible masses of various consistencies with dense nodules of fibrous connective tissue interchanged by a thin capsule[5]. They are sometimes depicted as having a "slice of salami" appearance due to the lobulated dense tissue disseminated within the tumor itself[4]. In both cases, the mammogram reports were not suggestive of breast hamartoma. One study reported that 30% of these tumors could not be detected by mammogram, and only 12% of the detected tumors had the typical findings that would allow the

* Intern
** Senior House Officer
*** Senior Registrar
Department of General Surgery
**** Consultant
Department of Pathology
E-mail: fahad.khalfan@gmail.com; fatmah.abdulwahid@khuh.org.bh

prospective diagnosis of breast hamartoma to be made based on mammogram alone[5].

The definitive diagnosis of breast hamartomas is histological[7]. Arrigoni first described the lesion as "mammary glandular tissue with a prominent lobular arrangement, fibrous stroma and fat in variable proportions"[1]. However, several other reports have revealed variability in the pathological findings mainly due to the difference in the proportion of fat, fibrous and glandular tissue content from one tumor to another[2]. One study revealed that while there are many histological features present in breast hamartomas, none are unique to this tumor[8]. Due to its resemblance to other benign and physiological changes in the breast, as well as the variability in normal breast tissue components within this kind of lesion, the histopathological diagnosis of hamartoma may be missed and accidentally diagnosed as fibroadenomas as suggested by other studies[3,4,9]. However, the lack of organization of tissue is one feature that could distinguish between hamartomas and fibroadenomas[9].

Hamartomas have been shown to have the same malignant potential as normal breast tissue[4]. Nothing more is required other than surgical excision. However, older patients and hamartomas larger than 6 cm have been shown to have an increased risk of malignant transformation[4]. One case reported mammography findings suspicious of malignancy arising within a hamartoma, it was later confirmed as invasive ductal carcinoma[10]. In high-risk patients, early diagnosis and treatment of breast hamartomas could be a pre-emptive strike in combating the increasing incidence of breast cancer.

CONCLUSION

Two cases of breast hamartoma were presented. Their unique presentation and investigation were discussed. The remote possibilities of malignancy transformation were cited in a few case reports.

Author Contribution: All authors share equal effort contribution towards (1) substantial contribution to conception and design, acquisition, analysis and interpretation of data; (2) drafting the article and revising it critically for important intellectual content; and (3) final approval of manuscript version to be published. Yes.

Potential Conflicts of Interest: None.

Competing Interest: None.

Sponsorship: None.

Acceptance Date: 19 September 2017.

Ethical Approval: Approved by the Research and Ethics Committee, King Hamad University Hospital, Bahrain.

REFERENCES

1. Khoo JJ, Alwi RI, Abd-Rahman I. Myoid Hamartoma of Breast with Chondroid Metaplasia: A Case Report. Malays J Pathol 2009; 31(1):77-80.
2. Sonmez FC, Gucin Z, Yildiz P, et al. Hamartoma of the Breast in Two Patients: A Case Report. Oncol Lett 2013; 6(2):442-444.
3. Sevim Y, Kocaay AF, Eker T, et al. Breast Hamartoma: A Clinicopathologic Analysis of 27 Cases and a Literature Review. Clinics (Sao Paulo) 2014; 69(8):515-23.
4. Cazorla S, Arentz C. Breast Hamartomas – Differential Consideration in Slow Developing Breast Asymmetry. JPRAS Open 2015; 3:17-21.
5. Farrokh D, Hashemi J, Ansaripour E. Breast Hamartoma: Mammographic Findings. Iran J Radiol 2011; 8(4):258-60.
6. Harman M, Unal O, Ugras S, et al. Breast Hamartoma: Radiologic Appearances. Eastern Journal of Medicine 2003; 8(2):43-5.
7. Vergine M, Scipioni P, Santucci E, et al. Hamartoma of the Breast in a Young Woman. Case Report. G Chir 2013; 34(5-6):161-3.
8. Tse GM, Law BK, Ma TK, et al. Hamartoma of the Breast: A Clinicopathological Review. J Clin Pathol 2002; 55(12):951-4.
9. Georgian-Smith D, Kricun B, McKee G, et al. The Mammary Hamartoma: Appreciation of Additional Imaging Characteristics. J Ultrasound Med 2004; 23(10):1267-73.
10. Choi N, Ko ES. Invasive Ductal Carcinoma in a Mammary Hamartoma: Case Report and Review of the Literature. Korean J Radiol 2010; 11(6):687-91.