

A rare occurrence of breast hamartoma in a nine-year-old girl: A case report

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Abstract

Breast hamartoma is a rare benign lesion mostly affecting middle aged women. Only a few cases in adolescents and children have been reported. We report a case of breast hamartoma in a nine-year-old girl, who presented with painless lumps in her left breast which were mobile and firm in consistency. Ultrasonography of the breast lumps was inconclusive. Histopathological examination after surgical excision confirmed the diagnosis of breast hamartoma. This case underscores the rarity and diagnostic challenges of breast hamartoma in the paediatric population necessitating the need to perform surgical excision for the definitive diagnosis.

Keywords: Adolescent; Benign breast disease; Hamartoma; Paediatric.

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Introduction

Breast hamartoma was first described by Arrigoni et al. in 1971.¹ A breast hamartoma is a rare benign lesion with a prevalence of approximately 0.7% of benign breast tumours in females. It is more common in females as compared to males. It commonly presents as a mobile, painless, and palpable mass in the breast. But it is not always distinguishable on clinical examination. Thus, excisional biopsy is sometimes required to confirm the diagnosis.¹ Breast hamartomas are usually composed of variable amounts of adipose tissue, glandular epithelium, and fibrous tissue. The pathogenesis of breast hamartoma is still not known.² However, it is considered a developmental abnormality rather than a tumour. Most of the patients presenting with breast hamartoma are adults and it is exceedingly rare in paediatric population. The majority of paediatric breast diseases are benign in nature including mostly fibro-adenoma, fibrocystic breast disease, abscess, and galactocoele. Only a few cases of paediatric breast hamartomas have been reported.³ A case of breast hamartoma in a nine-year-old girl is being reported here

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due to its rare prevalence and implications in the paediatric population.

Case Report

A nine-year-old girl of South Asian descent, who had not yet attained menarche, presented to THQ Hospital Kharian on May 25, 2024 with the complaint of painless lumps in her left breast first noticed one month back. On examination, the left breast was slightly enlarged as compared to the right breast. Multiple lumps were felt in all the quadrants of the left breast on palpation with the largest measuring 2 x 2 cm in size present in the lower outer quadrant. All the palpated lumps were firm in consistency, non-tender, having smooth surface and indistinct margins. They were mobile and not fixed to the underlying structures. The overlying skin and nipple was normal. There was no regional lymphadenopathy and the examination of the right breast was unremarkable. Ultrasonography was unremarkable and showed normally developing breast tissue in both the breasts (Figure 1). Fine-needle aspiration cytology (FNAC) of the breast lump was performed; however, the results were inconclusive. Finally, it was decided to surgically excise the palpable lump for definitive diagnosis. After excision, the specimen was sent for histopathology. The gross specimen consisted of a tan-brown tissue fragment measuring 4 x 3.5 x 2.0 cm with homogeneous cut surfaces. Histological examination of the section was done by a pathologist which showed benign breast parenchyma with ducts lined by inner epithelial and myoepithelial cells and individual ducts outside the breast lobules arranged in a disorganised manner. No evidence of granulomatous or neoplastic process was seen (Figure 2).

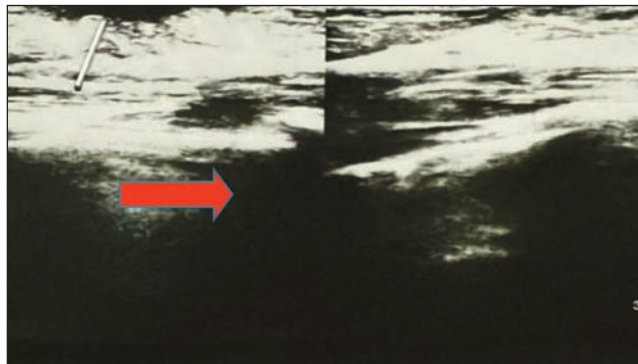


Figure-1: Ultrasonography showed hypoechoic heterogeneous area (red arrow) in the retro areolar region without discrete lesion, indicating normal developing breast tissue.

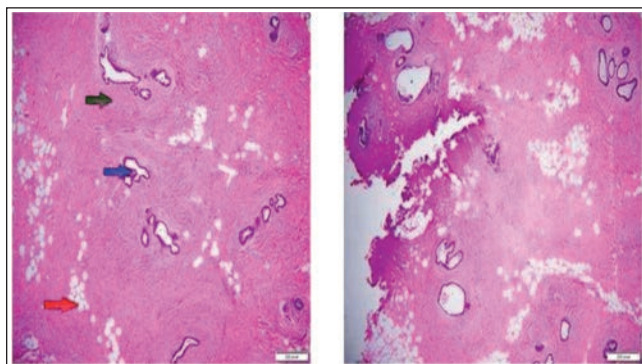


Figure-2: Histopathological examination of the specimens with Haematoxylin and Eosin staining showed stroma (connective tissue; green arrow), ducts (blue arrow) and adipose cells (red arrow) arranged in a disorganised manner with no cellular atypia.

Thus, the final diagnosis of breast hamartoma was made and the patient was asked to return for follow-up at one and six months. During both follow-ups, the patient had no active complaints and the size of the remaining lumps did not increase. The patient was then asked to return for follow-up after one year or immediately if the size of any lump progressively increased or caused any symptom. When asked about their experience, the patient's guardian said that they were very much worried when they first discovered the lump considering it to be cancerous; however, after detailed testing and the confirmation of diagnosis, they were relieved to learn that it was benign in nature.

The authors certify that this study was approved by the Research Ethics committee. Written informed consent was obtained from the patient's guardian for the publication of this report. This case report follows the case reports (CARE) Guidelines.⁴

Discussion

Breast hamartomas are not very common and review of the literature revealed that only around 300 cases of breast hamartoma have been reported till date. They most commonly develop in women with only a few cases reported in men. Most of the patients presenting with breast hamartoma are between 30 and 50 years of age. Only very few cases of breast hamartoma have been reported in the paediatric population.^{3,5,6}

The present study discusses a case of breast hamartoma in a nine-year-old girl which is the youngest female reported to have this disease till date. However, due to its rare occurrence in the paediatric age group and difficulty associated with its diagnosis especially in differentiating it from normal breast tissue or other benign breast disorders, breast hamartoma might be underdiagnosed in this age group.^{3,7} This was also evident in the current study where

final diagnosis was made after surgical excision. Thus, it is believed that the true prevalence in the paediatric age group may be higher.

Chang et al.⁵ reported seven cases of breast hamartoma and all of them were females between 11 and 17 years of age and had achieved menarche. On the other hand, the nine-year-old girl in the present study had not achieved menarche.

Histopathological examination of the samples from the present case revealed homogenous breast parenchyma with ducts lined by inner epithelial and myoepithelial cells and individual ducts outside the breast lobules. The findings in this case are consistent with the histological findings of different cases of breast hamartoma in adolescents reported by Chang et al.⁵

Although the histological examination in the present case provided no evidence of any malignancy, the available literature showed that malignant transformation can rarely occur in this benign clinical entity especially in the older age group. Therefore, if the lesion is rapidly growing or there is a high suspicion of malignancy, definite diagnosis via histological examination is needed.^{1,7,8}

Conclusion

This case highlights that breast hamartoma, although exceedingly rare in premenarchal girls, should be considered in the differential diagnosis of a painless breast lump. As shown in this patient, clinical examination, ultrasonography, and FNAC were inconclusive, and histopathological examination following surgical excision may be required to establish the diagnosis. Timely recognition of this rare condition may facilitate appropriate management and help exclude malignancy when clinical suspicion is high.

Disclaimer: Artificial Intelligence (AI) was not used in the preparation or writing of this case report.

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Author Contribution:

DNAD: Concept, literature review and writing the first and second draft.

MA: Concept, validation, supervision and final approval.