Case Report

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Breast hamartoma with intrathoracic extension in a 13-year-old boy

ABSTRACT

Breast hamartoma is a rare tumor that has been reported only thrice in a male breast. The pediatric age group is seldom involved. We present a case of breast hamartoma in a 13-year-old boy, which interestingly, extended through but without definite involvement of the chest wall into the thoracic cavity. In view of occasional recurrence and documented malignancy in hamartomas, tumor was excised along with two ribs.

KEY WORDS: Breast, hamartoma, tumors

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INTRODUCTION

Breast hamartomas are uncommon benign lesions with incidence of 0.7% of benign breast tumors in women.[1] These have been classically regarded as female breast tumors; only three cases have been reported in male breast.[2-4] Most patients are more than 35 years of age and the pediatric age group is rarely the sufferer. Breast hamartoma presents as a painless slow growing breast lump that is not attached to the underlying structure.[1] We describe a peculiar case of a 13-year-old boy with right breast hamartoma that extended, without microscopic involvement of the chest wall, into the thoracic cavity. No such case of intrathoracic extension of breast hamartoma has ever been reported.

CASE REPORT

A 13-year-old boy presented with painless, enlargement of his right breast for 10 months that had increased rapidly in size during last two months. Patient was not under any medications or drugs. He denied any history of trauma to either breast or surgery and radiation exposure. There was no history of any nipple discharge. His body habitus was normal and gonadal examination did not reveal any abnormality. On examination, a non-tender, soft, rubbery, mass of approximate size 10 × 10 cm and spherical to oval was noted in the area of right breast just under the nipple [Figure 1]. It had pushed the nipple anteriorly, which could be separately moved over the mass. Mass had a limited degree of mobility over the chest wall, and its posterior-most border could not be made. There was no evidence of axillary lymphadenopathy. Ultrasound (USG) of bilateral testis and abdomen did not reveal any abnormality. USG of breast revealed a 10 × 9 cm sized solid heterogeneous mass with internal echogenic zones that extended into the right thoracic cavity through 3rd and 4th intercostal spaces. Fine needle aspiration cytology (FNAC) was performed which was non-diagnostic. A repeat FNAC also did not provide any definite diagnosis but the pathologist declared with certainty the benign nature of the lesion. CT-scan of chest showed a large 11 × 10 × 8 cm mainly hypo dense but heterogeneous mass in the right breast region that was not fixed to the muscles of the chest wall but extending into the right thoracic cavity with the help of pseudopodia like projection through 3rd and 4th intercostal spaces without the evidence of any rib destruction [Figure 2a and b]. Complete excision of tumor, along with anterior portions of 3rd and 4th ribs, was done and nipple areola complex was preserved. Defect thus produced, was repaired using polypropylene mesh. Grossly, both the ribs removed along with tumor were not involved [Figure 3a]. It was confirmed to be a hamartoma on histological examination [Figure 3b]. After 14 months of follow-up no recurrence has been reported.

DISCUSSION

Hamartoma of the breast is a rare benign lesion that since its initial description has been infrequently reported under various terms. Since 1928, approximately 300 cases have been reported.[5] Later in 1971, Arrigoni *et al.*[6] coined and defined the term breast hamartoma for the first time as well-circumscribed breast lesion composed of benign epithelial elements, fibrous tissue and fat in varying proportions. Thus depending on the proportion of

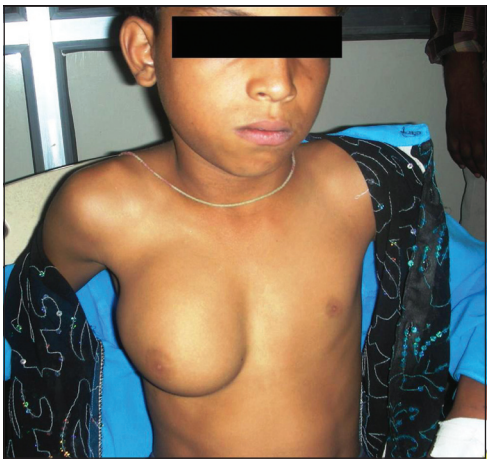

Figure 1: A spherical to oval mass (10×10cm) in a 13-year-old boy, present in the area of right breast just under the right nipple displacing it forward

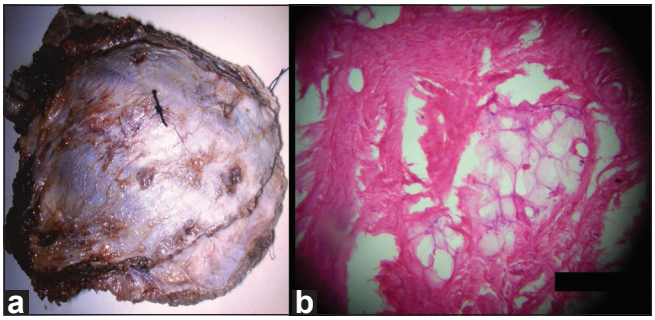

Figure 3: (a) Gross appearance of removed well circumscribed solid tumor, (b) Hematoxylin and eosin stained tissue from the removed specimen (× 40), showing features of breast hamartoma predominance of adipose tissue and few muscle cells

the normal breast tissue elements, it has been described as fibroadenolipomas, lipofibroadenomas and adenolipomas.[5-7]

The reported incidence of breast hamartoma is 0.7% of benign breast tumors in females,[1] however, true incidence may be probably higher.[8] The average age at presentation is about 45 years and most patients are above 35 years of age.[1,9] Although all breast diseases that occur in females can also occur in males, breast hamartoma has been exclusively considered a female tumor. Only three cases have been reported in the literature to occur in male breasts.[2-4] Most recent of these was described in a three-and-a-half-year-old male child that presented as prepubertal gynecomastia.[4]

Hamartoma of the breast presents as a painless slow growing breast mass in the outer quadrant of breast not attached to the underlying structures.[1] Examination reveals well-circumscribed, smooth, and mobile, round mass of soft to firm consistency that feels similar to normal breast tissue.[9]

Thus, this case had three uncommon features; first, it was

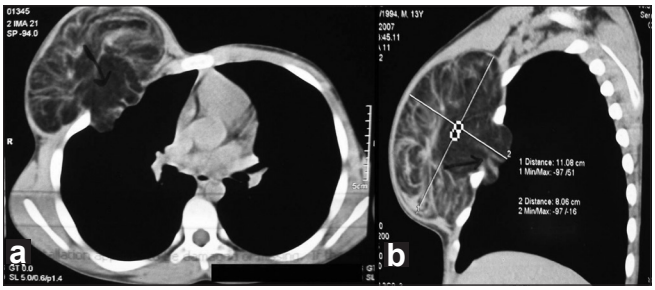

Figure 2: (a) Transverse view and (b) Sagital view of CT-scan of chest of a 13-year-old boy showing a large 11×10×8cm, heterogeneous mass in the right breast region not fixed to the intercostal muscles. It extends into the right thoracic cavity through the intercostal spaces with the help of pseudopodia like projections

a male breast hamartoma; second, the patient belonged to pediatric age group; and third, the tumor had intrathoracic extension. The latter has never been described so far for breast hamartomas.

On mammography, breast hamartoma typically appears a well defined lucent lesion that may have a thin capsule, showing varying densities related to the presence of fibrous and adenomatous elements. The sonographic appearance is similar to mammographic appearance and is described as "breast within a breast"; the hamartoma does not replace the breast tissue but only pushes the normal parenchyma aside.[9] On MRI, internal fat density is seen along with a smooth well defined hypo intense rim and internal heterogeneous enhancement.[8]

In strong comparison to other breast diseases, FNAC as in our case, and even needle core biopsy has only a limited role in making the diagnosis of hamartoma, and requires clinical and radiological correlation.[8] Grossly, hamartomas are well-defined masses with smooth glistening cut surfaces. Histologically, although, these do not have specific diagnostic features, the presence of lobules within a fibrotic stroma, which surrounds and extends between individual lobules is most characteristic (but not unique).[7,8] Fat whenever present suggests the diagnosis of hamartoma and this feature is helpful to differentiate it from fibro adenomas to which these may have clinical and histological resemblance, but the proportion of fat is highly variable.[7,8] But hamartomas definitely lack organization and patterns seen in fibro adenomas. Other rare histological features include micro calcification,[10] myoid differentiation[7,10] and focal ossification within the stroma.[8]

These lesions are curable with local excision, although occasional recurrence has been reported.[8,10] Moreover, rarely a carcinoma may arise within hamartoma,[1] thus excision is recommended when the diagnosis is suggested. In present case, in view of potential recurrence, hamartoma was excised along with two encircled ribs. Intrathoracic extension of breast hamartoma, in this case may also indicate an aggressive

behavior of this tumor in males. This is also supported by the fact that this patient reported a relatively rapid increase of size of the tumor over two months (breast hamartomas are classically considered as slow growing lesions).

CONCLUSION

Breast hamartomas are uncommon benign lesions with malignant potential that occur almost exclusively in female breasts, but on extremely rare instances may develop in a male breast. Occurrence in pediatric age is also uncommon. Intrathoracic extension of breast hamartoma as in our case has never been reported so far.

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