

Benign osseous metaplasia: A rare breast lump - case report.

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Abstract- Osseous metaplasia is a rare condition which has been reported in breast, gastrointestinal tract, lung, thyroid, parathyroid and pancreas. Most of the lesions of breast are malignant. To the best of our knowledge, only two cases of benign osseous metaplasia have been reported. A 69 years old HCV positive female patient, presented with history of left side breast lump of 4-5 months duration without other complaints. Ultrasound and mammography were suggestive of benign looking lesion. Trucut biopsy was suggestive of sclerotic mammary stroma without any epithelial component. Excision biopsy was done which revealed densely sclerosed stroma with calcification and ossification without any evidence of malignancy. So the final diagnosis of benign osseous metaplasia was made. In conclusion, benign osseous metaplasia of breast is a very rare condition which needs to be kept in differential diagnosis of benign and malignant breast lumps.

Index Terms- Benign osseous metaplasia, Breast lump, Histopathological diagnosis, Malignancy, Ossification.

1. INTRODUCTION

Osseous metaplasia is the presence of bony tissues in any soft tissue, including the breast. Predisposing factors are benign or malignant soft tissue tumors [1]. Benign osseous metaplasia of the breast is a rare entity. Only two cases have been reported in literature till date [2, 3]. Here we are presenting a case of benign osseous metaplasia presenting as a breast lump. This case is being reported following SCARE guidelines [4].

2. CASE PRESENTATION

2.1 Patient information

A 69 year old HCV positive female patient presented in OPD with c/o left breast lump noted 4-5 months back. Lump was increasing in size without any discharge. There was no history of fever, pain or any trauma to left breast. On examination, lump was approximately 3 x 5 cm in size, in the upper outer quadrant of left breast. It was nontender, firm and having well defined margins. Overlying skin was normal. There was no axillary lymphadenopathy.

2.2 Diagnostic assessment

USG of left breast was suggestive of calcified fibroadenoma. Mammogram of the left breast was suggestive of dense calcific lesion in upper outer quadrant of the left breast, likely calcified fibroadenoma (BIRADS II/III) and no evidence of malignancy (fig. 1). For diagnostic certainty, USG guided core biopsy was done which revealed sclerotic mammary stroma without any epithelial component with minimal perivascular inflammation.



Fig 1. Mammography left cc view: calcific lesion in upper outer quadrant of the left breast, likely calcified fibroadenoma (BIRADS II/III).

2.3 Differential diagnoses

The differentials may be benign or malignant. Among benign lesions, fibroadenomas, fibrocystic changes, fat necrosis, pleomorphic adenoma, benign mesenchymoma, phylloides tumor, amyloid tumor and fat necrosis are differentials. Malignant differentials are invasive breast cancer, ductal or lobular carcinoma in situ, atypical ductal hyperplasia, intraductal papilloma, phylloides tumor, fibrosarcoma, malignant mesenchymoma, osteoid sarcoma, osteogenic sarcoma, osteochondrosarcoma and metastatic cancers from a different primary [1, 2, 5, 6, 7].

2.4 Therapeutic intervention

Our patient was also having symptomatic cholelithiasis, so the patient was planned for laparoscopic cholecystectomy and excisional biopsy of left breast lesion. After adequate preoperative workup, patient underwent laparoscopic cholecystectomy and excision biopsy of breast lump under

general anesthesia. Hospital course was uneventful & patient was discharged on postoperative day 1.

Histopathological examination of the breast lump revealed densely sclerosed stroma with calcification and ossification. No evidence of malignancy seen after extensive sampling. Final impression was given as osseous metaplasia (fig.2). Gall bladder examination was suggestive of chronic cholecystitis with cholesterosis.

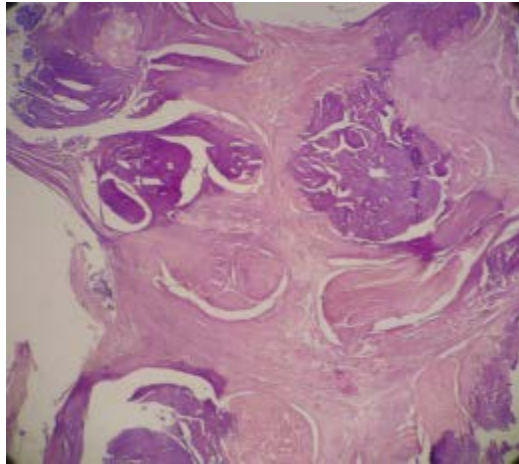


Fig. 2. densely sclerosed stroma with calcification and ossification with no evidence of malignancy.

2.5 Follow up & outcome-

Patient was followed up after 1 and 6 weeks postoperatively. Patient recovered well and wound healing was good without any complication.

3. DISCUSSION:

Osseous metaplasia is characterized by presence of heterotrophic bone tissue, which has been reported in breast, gastrointestinal tract, lung, thyroid, parathyroid and pancreas [5]. Suspected causes include trauma, hematoma and soft tissue tumors. It is a diagnostic challenge as it may mimic neoplasms both clinically and radiologically. Most of the osseous lesions of breast are malignant [6]. Very few cases are benign. In a review of 307 cases of tumor like conditions of breast, 1 out of 90 fibroadenomas and 2 out of 158 breast cancers contained bone or cartilage, 1 benign mesenchymoma contained cartilage, 1 benign mixed tumor (pleomorphic adenoma) displayed bone & cartilage. 22 papillomas and 34 gynaecomastia showed no bone or cartilage [7]. It is very unusual to detect heterotrophic bone matrix in breast tissue, without the presence of any other associated pathology as in our case. Although more is documented about osseous metaplasia in association with breast cancer or benign breast conditions, this case is a reminder that osseous metaplasia can be found in isolation. Malignant causes, however, must be excluded first. Joshi et al [2] reported 1st case of benign osseous metaplasia of

breast in an HIV positive case in 2013 and H. Alyami et al [3] reported 2nd case of benign breast metaplasia in February 2018. Our patient was also a known case of symptomatic cholelithiasis and had previously diagnosed with HCV infection. There is no literature suggesting association between these two conditions with osseous metaplasia of breast. These may have been coincidental findings.

4. CONCLUSION:

Benign osseous metaplasia of breast is a very rare condition that may present as breast lump which can occur in isolation. Malignant causes, however, must be excluded before making final diagnosis.

5. FOOTNOTES:

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Conflicts of interest: There is no conflict of interest.

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