

Benign Osseous Metaplasia of Breast – A Rare Case Report

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Received: December 2019

Accepted: December 2019

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ABSTRACT

Osseous metaplasia is a heterotopic bony tissue in soft tissue. It is rare in breast; when present it is usually seen in case of malignancy. Very few cases of benign osseous metaplasia of breast are reported. We present a case of Benign Osseous Metaplasia of breast which presented as a breast lump. A 58 year old female presented with left sided breast lump since 5 months which gradually increased in size. Clinical diagnosis of Carcinoma breast was given. On ultrasound it was suggested as cystic mass with areas of calcification. Fine needle aspiration cytology suggested breast abscess. Excision biopsy was performed and the histopathological examination showed extensively sclerotic and elastotic stroma with foci of benign osseous metaplasia and dystrophic calcification. There was no evidence of atypia or malignancy. A diagnosis of inflammatory lesion with Benign Osseous Metaplasia was made. **Conclusion:** Benign osseous metaplasia of breast may present as a breast lump and can mimic malignancy.

Keywords: Benign Osseous Metaplasia, Breast lump.

INTRODUCTION

Osseous metaplasia of breast is rare and refers to presence of benign/malignant breast neoplasm. Extraskelton bone formation is seen to occur in different organs like breast, lung, thyroid, pancreas, kidney, urinary bladder, gastrointestinal tract.^[1] In breast when present it is usually seen in case of malignancy. Benign osseous metaplasia of breast, which being a rare entity, only few cases are reported in the literature.^[2,3]

CASE REPORT

A 58-year-old female presented with left sided breast lump since 5 months which gradually increased in size. It was associated with intermittent, mild pain. Examination revealed a lump in the upper-outer quadrant of left breast measuring 4x3 cm, irregular margin, mobile, firm in consistency and mild tenderness was present. Overlying skin was normal. No associated nipple discharge or axillary lymph node enlargement was noted.

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Diagnostic assessment:

Clinical diagnosis of carcinoma breast was given. On ultrasound it was suggested as cystic mass with areas of calcification. Fine needle aspiration was performed by which 10ml of purulent fluid was aspirated and the smears were suggestive of breast abscess [Figure 1]. Excision biopsy was performed, and the specimen was sent for histopathological examination.

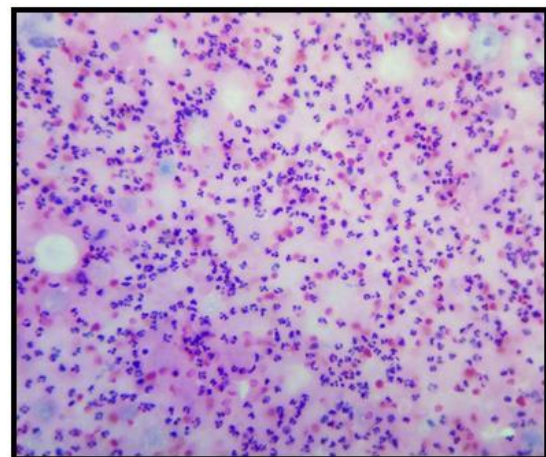


Figure 1: FNAC of the breast lump showing abundant neutrophils in sheets (H&E) 40X

Gross examination showed a single fibrofatty tissue measuring 9x8x3cm. Cut section showed a cystic

area measuring 3x2cm with a focus of grey white induration [Figure 2]. Sections were given from the representative areas and the tissue was processed, embedded, cut and stained with haematoxylin and eosin.

Microscopic examination revealed extensively sclerotic and elastotic stroma with foci of benign osseous metaplasia and dystrophic calcification. Adjacent breast parenchyma shows few dilated terminal ductal lobular units lined by metaplastic squamous epithelium, congested blood vessels and focal foam cell aggregates present. There was no evidence of atypia or malignancy. A diagnosis of inflammatory lesion with Benign Osseous Metaplasia was made [Figure 3 A&B].



Figure 2: Cut section of the specimen showing cystic area with indurated area present in the cyst wall.

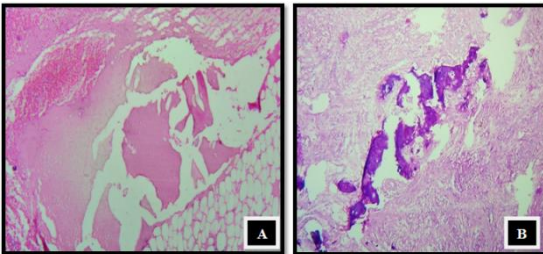


Figure 3 A&B: Histopathology showing bone matrix deposition and dystrophic calcification surrounded by sclerotic stroma and with no evidence of malignancy (H&E) 10x.

DISCUSSION

Metaplasia is defined as replacement of one cell type with another type. Osseous metaplasia is extraosseous bone matrix formation in soft tissue. There is no clear-cut pathophysiology for the occurrence of osseous metaplasia but Virchow in 1863 postulated that the osteoblasts may be from the fibroblasts which undergo metaplasia stating that the osteoblasts were modified fibroblasts and were seen in association with conditions including hematoma and soft tissue tumours.^[4] Gal-Gambos et al,^[4] stated that it may arise directly from fibroblasts or may be secondary to cartilage formation.^[4]

Osseous metaplasia is a rare entity which can occur in various organs including breast, GIT, lung,

thyroid, parathyroid etc.^[1] Most of these lesions in breast are found to be malignant as seen in fibrosarcoma,^[5] osteogenic sarcoma etc and are referred as mixed tumours or carcinosarcomas.^[6]

Only a few cases are benign as seen in normal breast tissue or in the presence of underlying pathology like trauma, abscess, hematoma, radial sclerosing lesions, old fat necrosis sites, sclerosing papilloma, soft tissue tumours especially tumours which are treated with radiation. Rarely it is present in stroma of fibroadenoma, phyllodes tumour, benign mesenchymoma, pleomorphic adenoma etc.^[7,8]

While many studies document that osseous metaplasia is seen in connection with breast cancer or any other benign breast neoplasm, this case can be considered as a reminder to show its occurrence in isolation.

CONCLUSION

Benign osseous metaplasia of breast poses as a diagnostic challenge by presenting as a breast lump and mimicking malignancy.

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How to cite this article: Thushara K, Rupashree S, Babu RK. Benign Osseous Metaplasia of Breast – A Rare Case Report. *Ann. Int. Med. Den. Res.* 2020; 6(1):PT01-PT02.

Source of Support: Nil, **Conflict of Interest:** None declared