

Synchronous Spindle Cell Sarcoma of Sternum and Left Breast Invasive Carcinoma: A Case Report

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INTRODUCTION

The sternum is a critical structure of anterior chest wall but is an uncommon site for neoplastic involvement. Speedy diagnosis and treatment of sternal neoplasia is prudent to prevent circulatory collapse from mass effect to the mediastinum. When a new sternal mass is encountered, whether it is believed to be primary or secondary; malignancy needs to be considered until proven otherwise since primary sternal tumour is more frequently malignant than benign. Sternal chondrosarcoma is the most common; followed by myeloma, lymphoma and osteosarcoma. Spindle cell sarcoma of the sternum is very rare, while invasive breast carcinoma remains the most common form of breast cancer. However, synchronous occurrence of sternal spindle cell sarcoma and invasive breast carcinoma is extraordinary. Contrastingly, in the setting of a highly suspicious breast mass encountered with a concurrent sternal mass, skeletal metastasis to the sternum is usually the first differential diagnosis to consider though this is also uncommon.

CASE DESCRIPTIONS

Our patient is a 62-year-old lady with underlying diabetes mellitus and hypertension, presented with a central chest wall swelling for 4-months duration. It was described as hard in consistency with increasing size. No discharge or skin discoloration was noted. The swelling is associated with constant dull or pricking pain which radiates to the back and bilateral arms. She denied any constitutional symptoms, respiratory symptoms, palpable breast lump, history of trauma or dysphagia. No family history of malignancy was identified.

On physical examination, a mass measuring about 4 cm x 5 cm was observed overlying the sternal area. It was hard, immobile and appeared fixed to the underlying tissue. No abnormal lymph node was identified. However, incidentally a small but firm left breast lump measuring about 2 cm x 2 cm was palpated. Subsequent blood investigations were unremarkable. Histopathological examination of the sternal mass biopsy depicted a spindle cell sarcoma; while that of the left breast biopsy revealed an invasive carcinoma. Patient underwent left mastectomy, axillary clearance, sternal tumour resection and chest wall reconstruction.

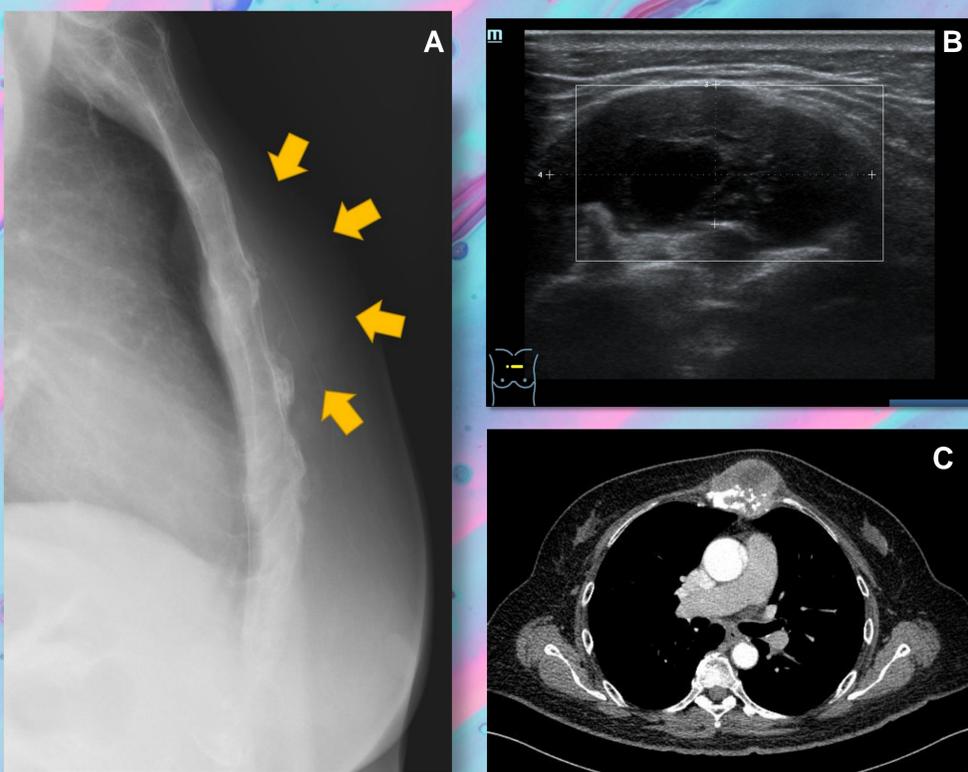


Figure 1: Lateral sternal radiograph (A), ultrasound sternum (B) and CT thorax (C) showing the sternal mass depicted as: (A) Soft tissue opacity with sternal erosion. (B), (C) Well-defined mixed solid cystic hypoechoic sternal mass with bone destruction.

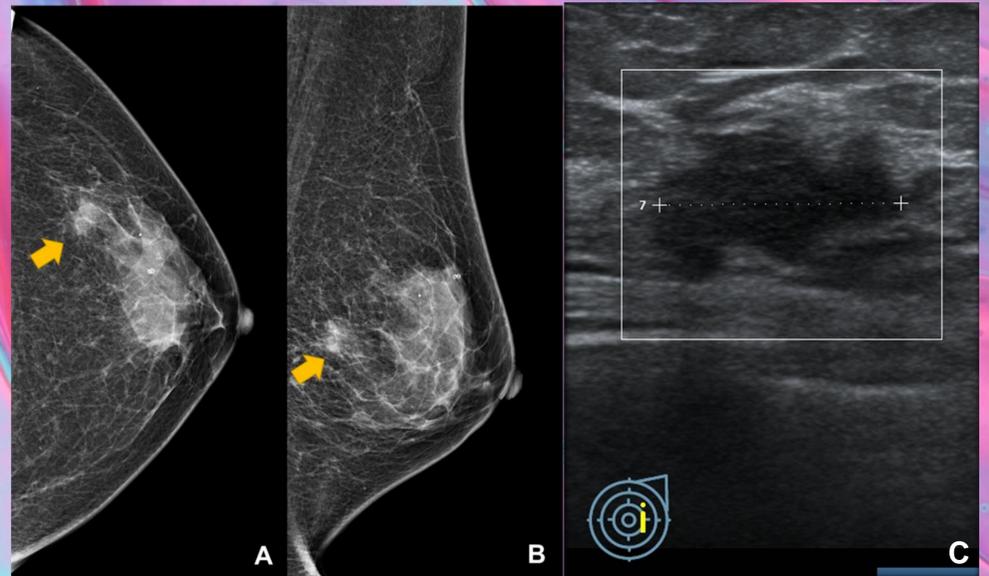


Figure 2: (A) & (B) - Left mammogram images showing a small irregular high density lesion at the left mid outer quadrant. (C) Left breast ultrasound shows an irregular hypoechoic lesion with minimal posterior shadowing. Overall a BIRADS 5 lesion.

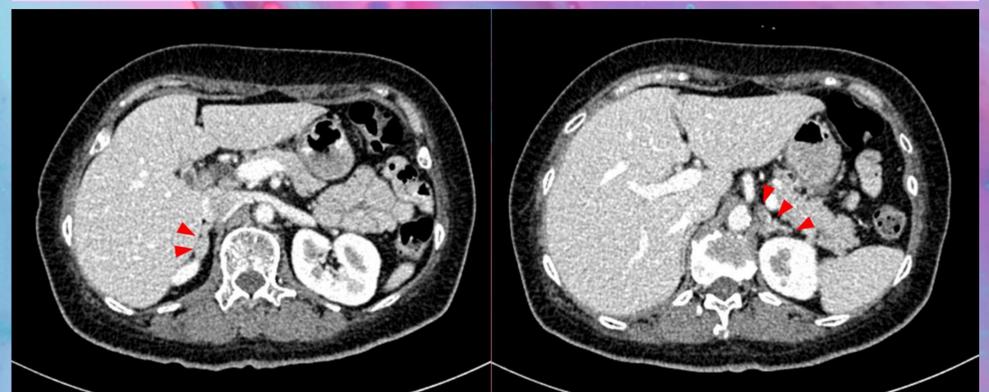


Figure 3: Contrast-enhanced CT abdomen (axial plane) show bilateral adrenal metastases.

DISCUSSION

1. Sternum is midline flat bone which anchors the rib cage. A variety of hematogenous diseases may be harboured from the sternum whose hematopoietic marrow provides a rich soil for disease seedling of neoplasm and infection³.
2. Sternum is uncommonly involved in neoplastic disease. Of the primary sternal tumours, malignant counterpart is more frequent than benign entity by more than 50% and hence should be considered until proven otherwise. Metastasis is by far the commonest, whereas the most common primary malignant tumour is chondrosarcoma¹.
3. Primary soft tissue sarcoma of the chest wall is rare, whereas spindle cell sarcoma is an extremely primary malignant tumour of the sternum².
4. Speedy diagnosis and treatment is crucial not only to cease disease progression, but also to prevent mass effect to mediastinum causing subsequent SVC syndrome and circulatory collapse³.

CONCLUSION

Radiologists should be familiar with the possibility of primary sternal tumour as opposed to the more frequent skeletal metastasis when concurrent breast carcinoma and sternal mass are encountered. Therefore, radiopathological correlation is of utmost importance when interpreting radiological images during this circumstances.

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