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Case Report - A Rare Case of Sarcoma of Breast in Male

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Abstract: ***Breast cancer in male is rare, it represents less than 1 % of all breast cancer in male. Breast cancer in male has uni modal age frequency distribution with peak incidence around 67 yrs as men tend to be diagnose late as compared to women.5 yrs survival rate for men with breast cancer is 84%. Breast sarcoma are aggressive tumors associated with poor prognosis. We present a case of 45 year old male who presented with recurrent lump in breast and post operative histopathology report after mastectomy is suggestive of Malignant mesenchymal neoplasm.***

Keywords: Breast sarcoma, Mastectomy, Mesenchymal neoplasm

1. Introduction

Malignant tumors which originated from mesenchymal tissue, has occurred very rarely in the breast. Malignant mesenchymal breast tumors are aggressive, have propensity to recur, and bear a poor prognosis. The metaplastic carcinomas which has characterized by combination of mesenchymal and epithelial component would be uncommon malignancies of breast. Pure primary sarcomas have been the rarest malignancies in mammary tissue.

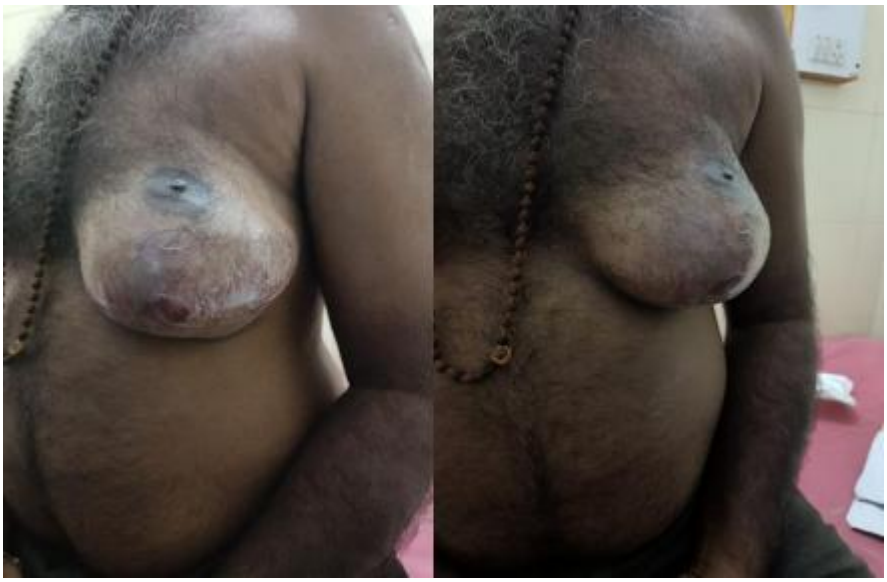
2. Case Report

45 years old male patient came to opd with complaint of lump in left breast since 10 months with skin discoloration without nipple discharge.

Patient was operated for similar lump in left breast twice once 3 yrs back in secondary health care centre and 1 year back in private hospital of which no documents are available with patient. Patient had no medical history or significant family history.

On admission patient was vitally stable. A lump of around 10*8 cm was palpable in lower inner and outer quadrant with displacement of nipple in upper direction. Skin over breast shows reddish discoloration without ulceration or discharge or dilated veins.

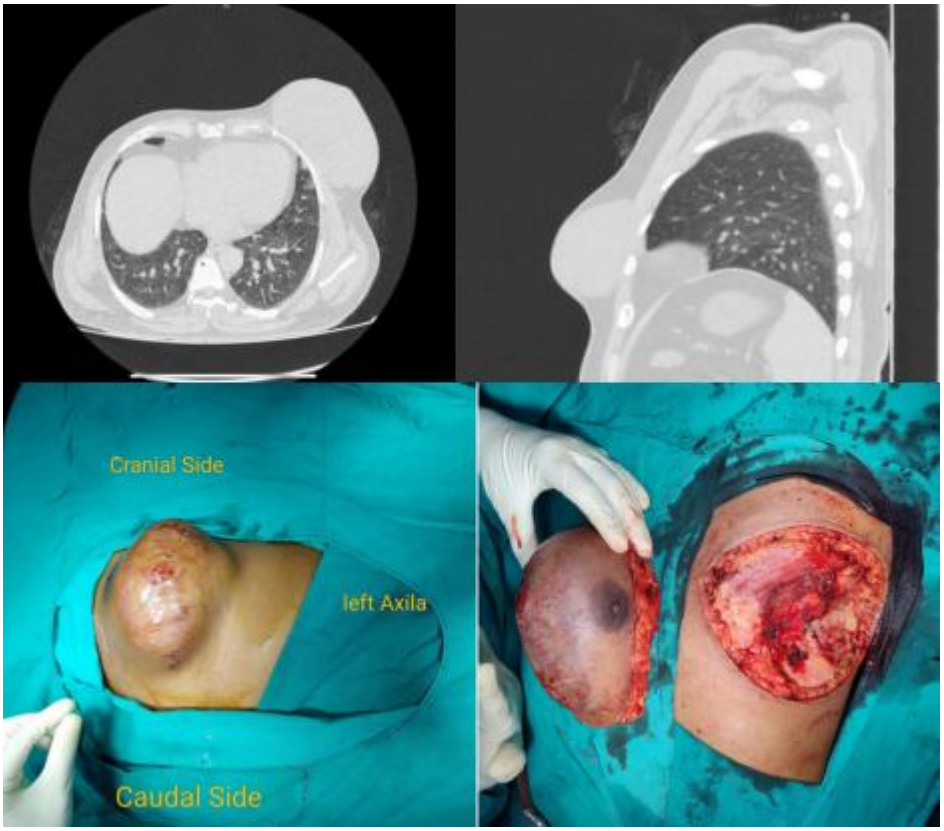
Preoperative Clincal Photo -



Radiological examination

USG (breast) - 9*8*8cm ill defined heterogeneous hypoechoic lesion with mild vascularity suggestive of neoplastic etiology. Fine needle aspiration cytology suggestive of Connective tissue tumour - highly suspicious of malignancy (Sarcoma).

CT Thorax - An large well defined, regular delayed heterogeneously enhanced soft tissue density mass lesion is seen in left anterior chest wall measuring 10.4 *10.3 * 8.8 cm with mild fat stranding without foci of calcification within s/o neoplastic etiology.

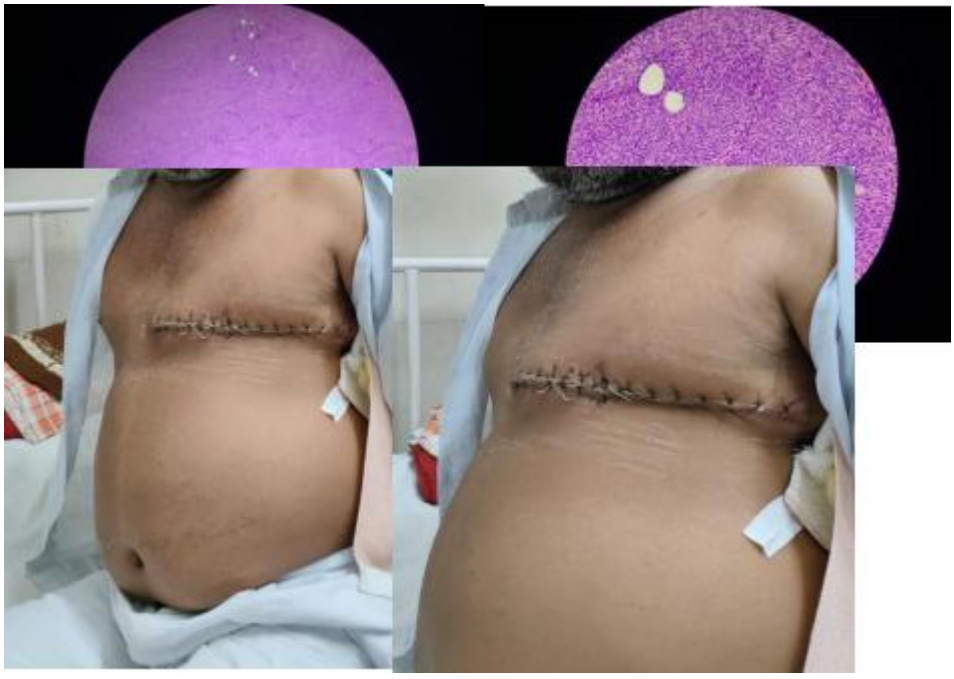


Patient was posted for simple mastectomy resection of all layers skin subcutaneous tissue tumor mass till pectoralis major was disected and resected sample of lump with breast tissue was sent for HPR. Post operatively patient was stable with removal of suction drain on post operative day 5 and patient discharged on day 7.
Histopathological report -

Sections reveal a highly cellular mesenchymal neoplasm seen as compact intersecting fascicles of spindle cells at places forming hernig bone pattern. The cells show vesicular spindle nuclei with moderate nuclear pleomorphism and 15 - 20 mitoses / 10 hpf. Tumor infiltrates subcutaneous fat and involves the dermis.

Impression - Malignant mesenchymal neoplasm with differential of malignant phyllodes tumor VS mammary sarcoma (Fibrosarcoma).

Post Operative Clinical Photo -



3. Discussion

Breast parenchyma is composed of two major lobular components— ducts and the periductal stroma. Besides these, interlobular hormone responsive stroma, the supportive structure for the terminal duct lobular units is the third component. This physiology gives rise to biphasic pathologies and the problem arises when the stromal component is predominantly involved. This coupled with decreasing size of biopsies poses a challenge, one which can only be mitigated by collating the clinical, histological and IHC findings to determine the histogenesis of the mesenchymal component. Whereas epithelial tumors of the breast have multipronged treatment strategies, the management of phyllodes and sarcomas begins with surgical excision and negative margins. Moreover, sarcomas have a poorer prognosis than Phyllodes.

Primary sarcomas of breast are rare accounting for < 1% of all breast neoplasms. Malignant mesenchymal neoplasm are extremely rare soft tissue sarcomas (10% of soft tissue tumors and incidence of 0.001% in general population), especially with primary in breast. They are often associated with Von Recklinghausen or neurofibromatosis. The mean age at diagnosis is 35 year.

In our case a 45 yrs old male patient with recurrent episodes for lump in breast was diagnosed with Malignant mesenchymal neoplasm on histopathology. Stromal sarcomas are malignant mesenchymal tumors arising from hormone - sensitive specialized stroma of mammary gland and tumor cells characteristically express CD10.

It is essential to perform extensive sampling to ascertain or rule out presence of leaf like architecture, epithelial component in the form of clefts/hyperplasia (PTs), or islands of metaplasia/epithelioid cells. IHC markers for neuron - specific enolase, Vimentin, and S - 100 are instrumental in confirming the diagnosis in Malignant mesenchymal neoplasm, while Ki 67 proliferation index helps to rule out benign neural tumors. Vimentin and CD10 positivity after excluding other cells of origin are diagnostic for stromal sarcomas.

It is worthy of mentioning that 80% Malignant mesenchymal neoplasm showed presence of osteoclast like multinucleated giant cells, although their significance is unknown. Although rarity of these cases remains an obstacle, further preferably multicentric studies are required to better elucidate the molecular and genetic characteristics of these tumors.

Myofibroblastomas, though rare, are the commonest benign mesenchymal neoplasm of breast after haemangiomas. They are known to affect elderly males and postmenopausal women. It is challenging to diagnose on core biopsy since they can mimic both ductal and mesenchymal malignancies. But, lack of necrosis, nuclear atypia, and mitoses compounded with characteristic nuclear and stromal features should nudge one into excluding myofibroblastic origin.

4. Conclusion

Primary breast tumors with mesenchymal morphology are rare and present a wide spectrum of neoplasms ranging from benign mesenchymal, biphasic fibroepithelial neoplasms to malignant tumors of mesenchymal as well as epithelial origin. Malignant mesenchymal tumors are much rarer and require a high index of suspicion for their diagnosis after diligently excluding commoner entities.

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