Case Report-I

Extra -skeletal Osteogenic Sarcoma of Breast Arising in a Pre-existing Phyllodes Tumour

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ABSTRACT

Osteogenic Sarcomas of the breast are extremely rare and need to be distinguished from other breast lesions with metaplastic bone formation as they carry a worse prognosis. We present the case of a 32 years old female who presented with a painless lump in her left breast. Following cytological investigation, simple mastectomy was performed. Histology revealed an Osteogenic Sarcoma of breast. After extensive sampling of the specimen, a small area revealing an infarcted Phyllodes tumour was identified. Thus, a diagnosis of an Extra-skeletal Osteogenic Sarcoma breast arising from a pre-existing phyllodes tumour was made. Radiologically, there was no evidence of any skeletal involvement.

INTRODUCTION

Osteogenic Sarcomas of breast is rare among all types of breast malignancies. The overall incidence is probably less than one per thousand breast malignancies.[1] There is still controversy regarding its histogenesis and its exact relationship with other breast malignancies and pre-existing benign breast lesions. We present a case of Osteogenic Sarcoma of breast in a 32 year old female without any primary involvement of skeletal system. After multiple tissue section sampling a single small focus of an infarcted Phyllodes tumour was identified.

CASE: A 32 years old female patient presented with lump in left breast for the past 6-7 months. On examination, she had a non-tender, firm to hard, mobile lump measuring 6 cm x 5 cm in upper inner quadrant of left breast with skin ulceration. There was no axillary or supraclavicular lymphadenopathy. Other breast was unremarkable. There was no significant past or family history. A clinical diagnosis of carcinoma breast was made. Fine needle aspiration revealed a pleomorphic picture with spindle-shaped tumour cells and multinucleated giant cells. Thus, a diagnosis of Pleomorphic Sarcoma was forwarded. Simple mastectomy was performed which measured 25x20x15 cm. Overlying skin showed an area of ulceration. Nipple and areola were normal. On section, a tumour growth under the skin ulceration measuring 7 cm in maximum dimension was seen with infiltrating margins. Growth was firm to hard with translucent appearance. Resected margins were free from tumour infiltration. No lymph node could be isolated. Histological examination revealed a malignant tumour composed of pleomorphic spindle cells of varying anaplasia, osteoclastic giant cells and foci of malignant osteoid deposition {Fig 1 & 2}. There were areas of necrosis and hemorrhage mitotic figures were fairly numerous. The tumour was histologically indistinguishable

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from osteosarcoma of other sites. No area showing epithelial differentiation or mucin

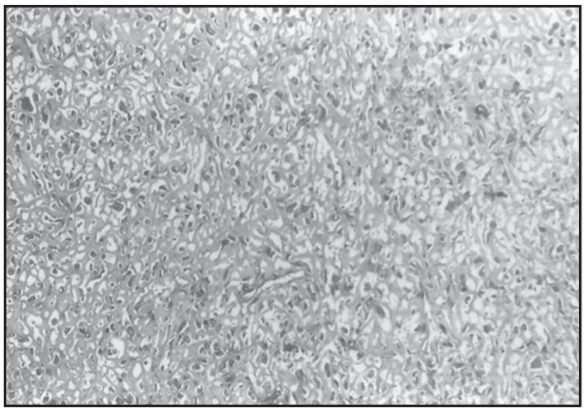

Fig. 1 : Photograph shows pleomorphic tumour cells with malignant osteoid formation (H&E, 100 x)

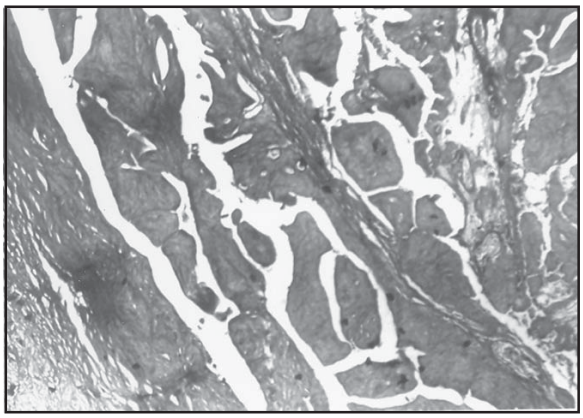

Fig. 2 : Photograph shows large anaplastic tumour cells, osteoclastic giant cell and osteoid (H&E, 400 x)

production was observed. Immunohistochemically, tumour cells were non-reactive for epithelial membrane antigen. After multiple section examination (seventeen sections in total), only one small focus of a totally infarcted Phyllodes tumour was observed and a final diagnosis of an extra-skeletal osteosarcoma of breast arising in a pre-existing phyllodes tumour was made (Fig-3). A skeletal-survey was unremarkable.

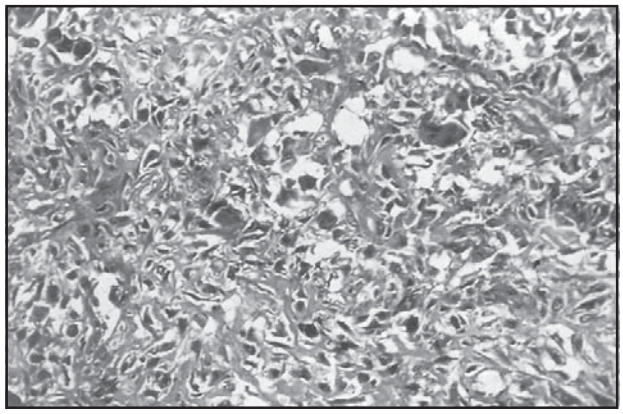

Fig-3 : Photograph shows an old infarcted Phyllodes tumour (H&E, 100 x)

DISCUSSION

Sarcomas account for less than 1% of all malignancies of the breast.[1,2] Osteosarcoma of the breast accounts for less than one per thousand breast malignancies and is therefore a very rare tumour.[2] Osteogenic Sarcoma carries a worse prognosis therefore needs to be distinguished from a variety of benign and malignant breast lesions producing metaplastic bone.[1,3,4]

The histogenesis, as well as the relation of osteosarcoma breast with other breast lesions is controversial, although various hypotheses have been put forward. In 40% of cases, a pre-existing or co-existing fibroadenoma/phyllodes tumour can be found.[1,5,6] Many authors believe that all osteosarcomas of breast arise by metaplasia of stromal cells. Still others favour the hypothesis of extraordinary metaplasia in a fundamentally epithelial tumour.[6-8]

This tumour usually occurs in middle aged or elderly women, vary in size from 3 cm to 30 cm, may be smooth or lobulated, solid or cystic and mobile or fixed.[9] Axillary lymphnodes, if present, are invariably reactive. Metastasis occurs via blood stream predominantly to lungs, bone, skin and brain.[9] Simple mastectomy is the treatment of choice. Radical mastectomy confers no extra benefit because of hematogenous spread of tumour. Post operative chemotherapy (doxorubicin, cisplatin) may be of value.

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