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Case Report

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SOFT TISSUE METASTASIS IN ARM ALONG WITH PAGET'S DISEASE OF ARM IN A CASE OF BREAST CARCINOMA: A RARE CASE REPORT

Minakshi Roy[1]*, Manisha Singh[2], Rajani Sinha[3] and P K Verma[4]

[1]Dept of RadioTherapy, Mahavir Cancer Sansthan, Patna.

[2]Dept of Medical Oncology, Mahavir Cancer Sansthan, Patna.

[3]Dept. of Medical Oncology, Mahavir Cancer Sansthan, Patna.

[4]Dept. of Pathology, Mahavir Cancer Sansthan, Patna.

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***Correspondence for Author**

Dr. Minakshi Roy

Dept of RadioTherapy, Mahavir Cancer Sansthan, Patna.

ABSTRACT

Soft tissue metastasis in case of breast carcinoma is an uncommon phenomenon. Paget's disease is also a rare entity. It is present in less 1 to 4 s% case of breast carcinoma. In more than 95% cases underlying malignancy is found in Paget's disease. Extra mammary Paget's disease in case of carcinoma breast is also rare incidence. We report a case of 62 year old lady diagnosed to be carcinoma breast along with soft tissue metastasis to arm and Paget's disease of the metastatic site at presentation. The patient presented with non-healing ulcer in left arm along with breast lump. On core needle biopsy from left breast lump ductal carcinoma was diagnosed. On biopsy from non-healing ulcer in left arm showed ductal carcinoma along with Paget's disease. Hormone status showed triple negative at both sites. Patient was given standard Adriamycin based chemotherapy. But the ulcer became more extensive after only one cycle. Hence chemotherapy regimen was changed to weekly taxane. It is a unique case as till date no case of Paget's disease at metastatic site has been reported in carcinoma breast and only two cases of soft tissue metastasis in arm in case of breast carcinoma have been reported.

KEYWORD: Carcinoma, Metastasis, Non-healing ulcer, Paget's.

INTRODUCTION

Breast cancer is the most frequent cancer among women with an estimated 1.7 million diagnosed cases (in 2012). The incidence of breast cancer has grown by more than 20% and

related mortality has increased by 14% compare to GLOBOCAN, 2008 estimates. [1] It is now the most common cancer among women. It can metastasise to any part of body. Most common site of metastasis of breast cancer is bone. It also metastasises to liver, lungs, brain and skin. Soft tissue metastasis of breast cancer is very rare phenomenon. It was reported that the frequency of soft tissue metastasis is 0.8% in the book of Willis. [2] In the book of Pearson it was reported that the frequency is 5.5% from autopsy studies. [3] Tuoheti et al. [4] reported a frequency of 0.2% and Sudo et al. [5] reported a frequency of 2.7% based on their clinical studies. In a study by Darmon et al. [6] it was found that soft tissue metastasis occurred in thigh in 17% case, back in 13% cases, chest in 10% and upper arm in 10%, lower leg in 7% of cases studied by them. Plaza et al. [7] studied a series of 118 patients who have soft tissue metastasis. Out of those 13 cases showed metastasis from breast cancer and 2 of them was metastasis to arm. One of which was adenocarcinoma and other was duct carcinoma. There is huge difference in treatment strategy of early breast cancer and metastatic breast cancer. So it is important to evaluate the patient for staging before starting the treatment. If at any point of time during treatment metastasis is found then treatment protocol changes completely.

AIM: To report a rare case of Soft tissue metastasis of arm along with Paget's disease of arm in a case of breast carcinoma and to discuss the clinical pathological profile and pathogenesis of this rare case.

CASE REPORT

A 62 year old female patient presented in outpatient department two months ago with non-healing ulcer in left arm [Figure no.1] and a breast lump in left breast. She gave history that she had felt the breast lump about 1 year ago and that lump gradually increased in size. The ulcer started in a small area about 1 cm in upper arm 6 month ago and it spread gradually to almost whole of the upper arm over 6 months. On clinical examination of breast we found a 3×3 cm breast lump on left breast upper and outer quadrant which was firm, mobile, not fixed to skin and not fixed to the underlying chest wall. Multiple matted axillary lymph node was palpable in left axilla. No supra clavicular lymph nodes were palpable. A complete investigation was done. FNAC from left breast lump suggested duct carcinoma. Then core needle biopsy from left breast lump and incision biopsy from left arm were done. Reports showed ductal carcinoma in breast lump and duct carcinoma with Paget's disease in left arm [Figure no 2].ER – negative, PR –negative, HER 2 neu 1+ by IHC in both breast lump and left arm tissue. Ultrasound abdomen, chest X ray, complete blood count, liver function test,

kidney function test reports were within normal limits. CT scan thorax showed multiple matted lymph node in left axilla [Figure no 3]. Clinical staging was T2N2M1 that is Stage IV. Then one cycle of standard Adriamycin based chemotherapy (CAF regimen) was given to this patient. No symptomatic treatment was there. Ulcer became more extensive after the chemotherapy. Breast lump was increased in size marginally. So we changed the chemotherapy regimen to weekly paclitaxel (80 mg / sq m). After giving two cycle of weekly paclitaxel there was some response. So weekly taxane has been continued. Till date three cycle has been given.

DISCUSSION

Primary solid tumour presenting as soft tissue metastasis is uncommon phenomenon. [8, 9] Soft tissue comprises approximately 55% of our body mass. In spite of that haematogenous spread to this area is rare. Direct extension of a primary tumor to soft tissue is more likely to occur than distant soft tissue metastasis. Changes in pH, accumulation of metabolites and local temperature at soft tissue sites are main factor responsible for rarity of distant metastasis to soft tissue. [10] In our case it was found metastasis of duct carcinoma to soft tissue of arm along with Paget's disease. Paget's disease is found most often on nipple and areola of breast, but has also been seen in penis, anus, vulva, axilla, eyelid and mucosa of esophagus and larynx. Mammary and extra mammary Paget's disease is uncommon intraepithelial adenocarcinomas. Mammary Paget's disease occurs in 2-3%cases of breast cancer and most cases (82-92%) tumor cells have spread to skin of nipple and areola from underlying invasive carcinoma or ductal carcinoma in situ. [11-13] James Paget described first time the mammary Paget's disease in 1874. [14] He said that malignant changes in the underlying breast tissue was preceded and induced by skin changes. In 1889 extra mammary Paget's disease was described by Crocker. [15] He reported lesions on the scrotum and penis with similar histological features described by Paget. Crocker believed the tumor to be derived from sweat and sebaceous glands or hair follicle. Generally mammary Paget's disease originates from in situ or invasive ductal carcinoma in the underlying breast tissue. The origin of extra mammary Paget's disease is less well defined. It was said that all cases of extra mammary Paget's disease arose as epidermotropic spread from an in situ or invasive neoplasm arising in adnexal gland within dermis analogous to mammary Paget's disease arising from ductal carcinoma in situ. In mammary Paget's disease proportion of cases associated with underlying neoplasm is high. But in extra mammary Paget's disease much smaller portion of cases (9-32%) in several small studies [16-24] associated with underlying in situ or invasive

carcinoma. At present the proposed theory is the extra mammary Paget's disease arises as primary intra epidermal neoplasm in most of the cases. The tumor cells are thought to be originated either from the intra epidermal cells of apocrine ducts or from pluripotent keratinocyte stem cells. In few cases of mammary Paget's disease has been explained by this theory in which underlying breast neoplasm could not be found. [25] These cases are termed as primary Paget's disease which distinguishes them from some cases that arises as secondary spread from an underlying neoplasm in dermal adnexal gland or a local organ with contiguous epithelium. [26]

CONCLUSION

We have to know more about the tumor biology to predict the characteristic of tumor, its response to treatment. Tumor cells are highly adapted for survival. They survive through heterogeneity by producing new variants of subpopulation to counteract destructive influence due to any therapy. For any theory of neoplastic development, experimental design and clinical treatment recognition of tumor heterogeneity is essential.

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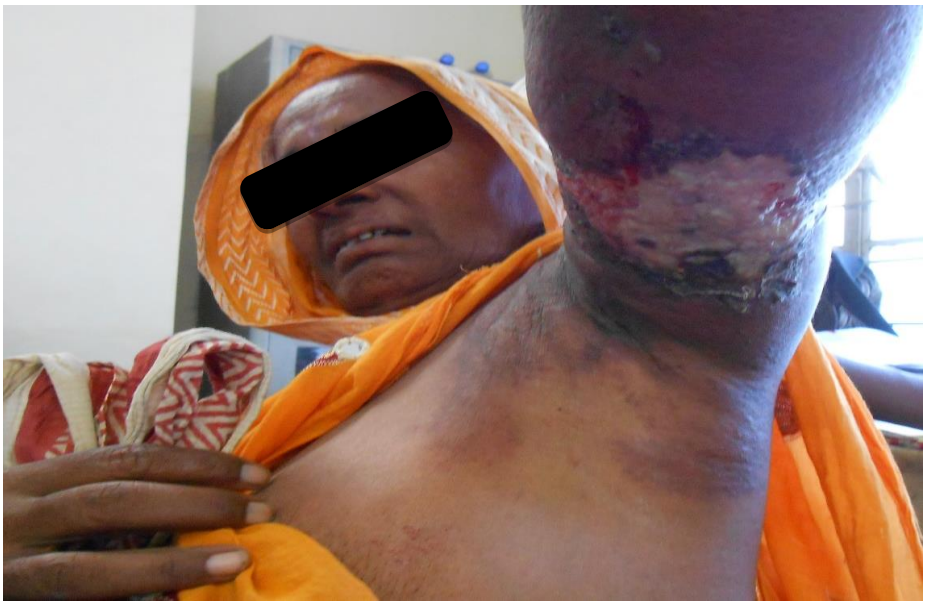

Figure no.1: Photograph of non-healing ulcer of left arm.

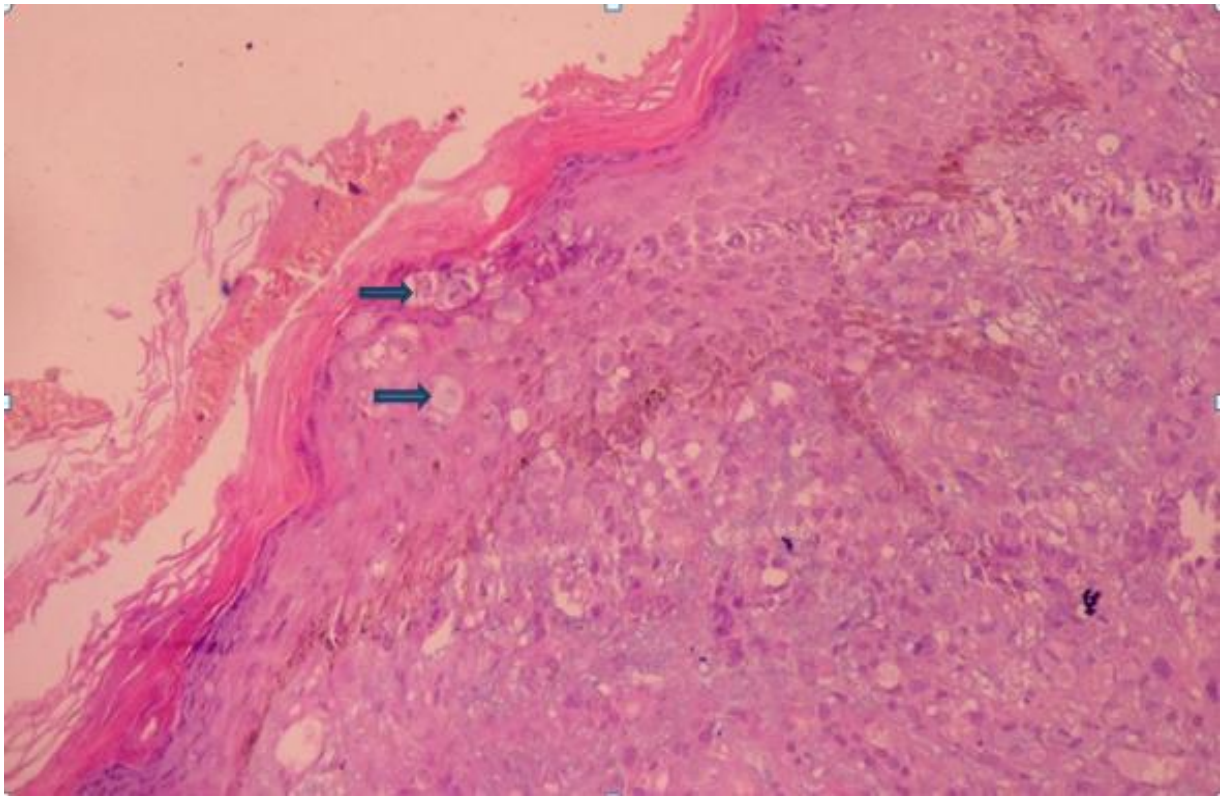

Figure no. 2: Histopathology slide of biopsy from arm ulcer showing Paget's disease

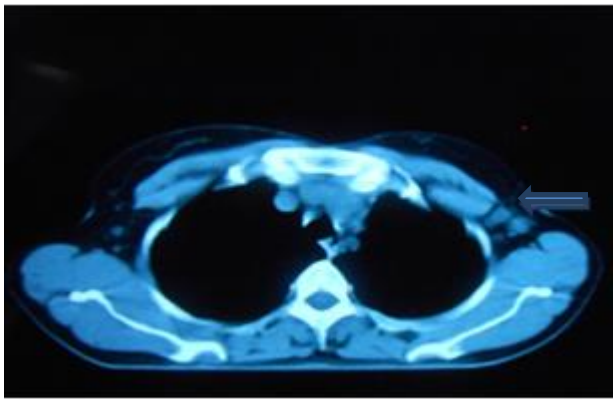

Figure no. 3: CT scan thorax showing multiple lymphnodes

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