

CASE REPORT

Carcinoma en Cuirasse: Invasive Ductal Carcinoma of Breast Presenting as Multiple Sclerotic Plaques

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ABSTRACT

Breast cancer is the most common type of cancer globally with skin involvement. Breast cancer can present with various cutaneous manifestations. Carcinoma en cuirasse is a rare form of cutaneous involvement by breast carcinoma presenting with sclerotic and indurated lesions on the chest wall. It is most commonly seen in cases of recurrence of carcinoma after mastectomy. Usually, it presents after breast malignancy is treated. Although in rare cases, it can present as the primary manifestation of breast malignancy. It is named after the breastplate of a cuirassier. Carcinoma en cuirasse can mimic other conditions such as morphea and metastases. We report a case of carcinoma en cuirasse in a 51-year-old female who presented with sclerotic and indurated morphea-like lesions on the left breast. Ultrasonography and mammography did not reveal any deeper abnormality or enlarged lymph nodes. Biopsy from the lesions was performed and histopathological examination revealed invasive ductal carcinoma of the breast. This is a unique case as the condition presented as a first sign of the disease. Sclerotic lesions presenting on the anterior chest wall should be examined thoroughly and investigated for early detection of underlying breast malignancy.

Keywords: Breast carcinoma, Carcinoma en Cuirasse, Cutaneous metastases, Invasive ductal carcinoma

Journal of Research in Medical & Interpathy Sciences. 2(1);2024

INTRODUCTION

Breast cancer is the most prevalent cancer accounting for 12.5% of total number of newly diagnosed cases of cancer.¹ It is the most common cause of mortality due to cancer in women in 119 countries.² Breast cancer is also the most common type of cancer presenting with skin involvement seen in 23.9% of all cases.³ The skin manifestations of breast cancer can be due to local effects, direct invasion, presenting as skin metastases, Paget's disease and paraneoplastic syndromes. The most common manifestations of cutaneous metastases of breast cancer are Nodular carcinoma followed by Alopecia neoplastica, Telangiectatic carcinoma, Erysipeloid carcinoma, Carcinoma en cuirasse, and zosteriform pattern.³ Carcinoma en Cuirasse is a rare clinical form of breast cancer presenting with morphea-like and indurated plaques on the skin of the anterior chest wall. Usually, it is seen in cases of local recurrence of breast carcinoma after mastectomy. But Carcinoma en cuirasse can also rarely present as the first manifestation of primary breast carcinoma. We report a case of Invasive ductal carcinoma presenting as Carcinoma en cuirasse.

CASE REPORT

A 51-year-old female presented with hardened skin around the nipple and multiple small firm sclerotic morphea-like plaques on the left breast for 6 months. These plaques were associated with flattening of the left nipple. She also complained of itching in the left periareolar region and mild pain in the left breast for 6 months.

She had also developed a blackish discharge from the nipple 3 months back which lasted for 4 days. Axillary lymph nodes were not enlarged.

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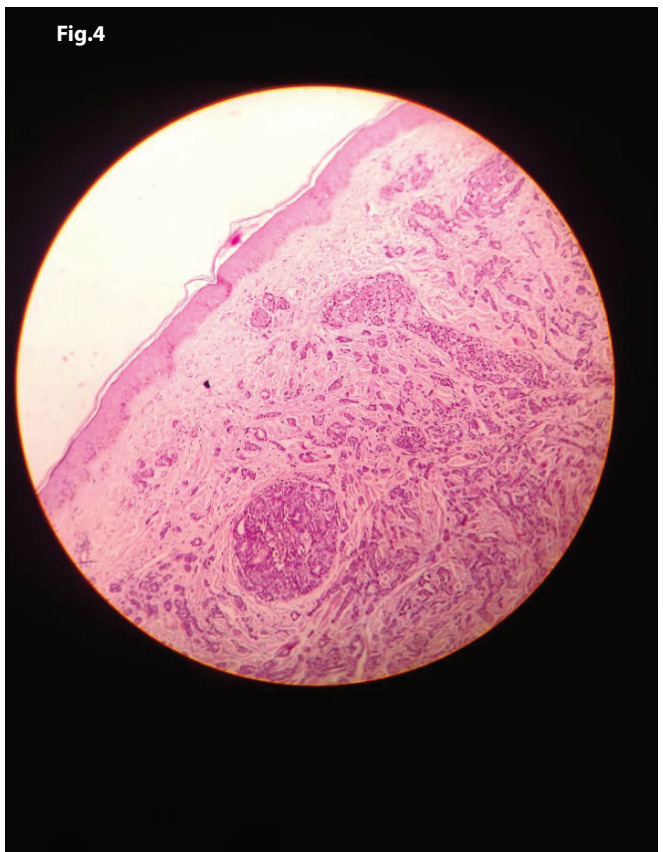
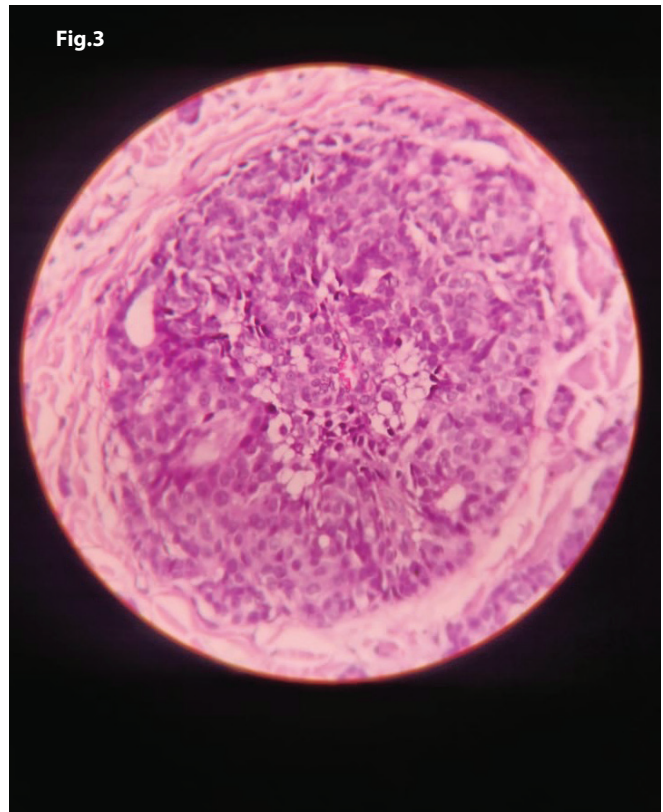
Conflict of Interest: None

Source of Funding: None

Ultrasonography of the breasts revealed no abnormality. The breast parenchyma, retroareolar region and retromammary region were normal, and lymph nodes were not enlarged. Mammography also did not reveal any abnormality. Skin biopsies were taken from the sclerotic lesions and periareolar region. A differential diagnosis of breast cancer, morphea, sarcoidosis, histiocytosis, eczema, and calcinosis was considered. Histopathological examination revealed round to oval tumour cells arranged in sheets & nests with pleomorphic hyperchromatic nuclei, prominent nucleoli, moderately eosinophilic cytoplasm and multiple atypical mitoses. Ductal carcinoma in situ was also seen. Based on the histopathological and clinical findings, a diagnosis of Carcinoma en cuirasse secondary to invasive ductal carcinoma of the breast was made.

DISCUSSION

Cutaneous involvement by internal malignancies is a rare manifestation. It is of diagnostic importance as it may be



Figures 1 and 2: Clinical photographs of patient showing sclerotic plaques on left breast with nipple retraction and involvement of periareolar area.

Figures 3 and 4: Histopathology showing round to oval tumour cells arranged in sheets and nests with pleomorphic hyperchromatic nuclei, atypical mitoses and ductal carcinoma in situ.

the first sign of an internal malignancy or can be the first indication of recurrence of a treated malignancy.

In a study conducted by Lookingbill *et al.* on 7316 patients with internal cancer, 367 (5%) of total had cutaneous involvement.⁴ In another study done on 4020 patients, 420 (10%) of the total had cutaneous metastasis.⁵

In a study, Digiorgi *et al.* found that breast cancer was a prevalent tumor with skin manifestations with 23.9% of the breast cancer cases showing skin involvement. Among that, 3.5% of the breast cancer cases had skin involvement as the first sign of presentation. Also, cutaneous metastases from breast cancer are diagnosed commonly.³

Mordenti *et al.* conducted a study of 164 cases of skin metastases from breast carcinoma and found that 131(80%) patients had papulonodular lesions, 19(11.2%) had telangiectatic carcinoma, 5(3%) cases had erysipeloid carcinoma, carcinoma en cuirasse in 5(3%), Alopecia neoplastica in 3(2%) of patients. Lesions were located at mastectomy site in 50 patients and elsewhere on the anterior aspect of the chest in 75 patients. Other sites involved were axilla (8), back (8), scalp (5), periauricular area (5), supraclavicular area (4), face (2), neck (2), upper extremities (3) and lower extremities (2). The lesions did not present as a first sign of the disease in any of the patients.⁶

Carcinoma en cuirasse is a rare cutaneous manifestation of breast carcinoma. It presents as indurated and sclerotic plaques most commonly on the chest wall. It is seen in 3% of patients having cutaneous metastasis from breast carcinoma.⁶

Carcinoma en cuirasse develops after treating primary tumour in most cases. But as in our case, rarely it can be the primary manifestation of breast cancer.⁷

The condition was first identified by Alfred Velpeau in 1838. It was named carcinoma en cuirasse because it resembles the steel breastplate of a cuirassier (cavalry soldier).⁸ It is also known by other names such as scirrhus carcinoma, armored cancer, and Acarcine eburnee.⁹ Pain and pruritus may be the associated symptoms of this condition. It has to be differentiated from cutaneous metastases which present as firm, flesh-colored or reddish-colored, smooth or ulcerated papules, plaque and nodules.¹⁰ Carcinoma en cuirasse may mimic many other conditions such as morphea, scleroderma, calcinosis, eczema, sarcoidosis, histiocytosis, metastases etc. In this case, breast carcinoma presented as sclerotic plaques on the breast. It was an isolated finding in the patient without any lumps in the breast or enlarged lymph nodes. Hence patients with breast carcinoma can present to dermatologists and other clinicians with isolated morphea-like lesions. Thus, it is essential to consider the possibility of underlying breast malignancy in the case of

indurated plaques presenting on the chest wall. A high degree of suspicion should be kept and the patient should be investigated thoroughly.

CONCLUSION

Carcinoma en cuirasse is a rare condition that needs consideration from dermatologists as it can present as a primary manifestation of breast malignancy. It is prudent to perform a biopsy in cases with sclerotic lesions on chest wall to confirm the diagnosis. Early diagnosis can lead to better outcomes in the survival of the patients.

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