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CASE REPORT

Carcinoma-en-cuirasse secondary to breast cancer: a report of two cases

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Abstract:

Background: Breast cancer is the most common malignancy seen in our practice and usually present with a painless lump. It may infrequently present with dermal manifestations or complications. These includes carcinoma-en-cuirasse which is a rare dermal complication of advanced invasive breast cancer where the skin of the chest wall is infiltrated by tumour cells and appears as nodules and plaques. It occurs in either gender though more common in females. Carcinoma-en-cuirasse is associated with a poor prognosis and experience managing this rare complication of breast cancer is limited.

Aim: To highlight the clinical presentation and management challenges of carcinoma-en-cuirasse.

Methods: A report of two cases of carcinoma-en-cuirasse seen in a breast care unit of a university affiliated hospital.

Conclusion: Carcinoma-en-cuirasse is a rare dermal complication of breast cancer which responds poorly to treatment and carries a poor prognosis.

Keywords: Advanced breast cancer, dermal complications, limited experience, poor prognosis.

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Introduction

Carcinoma of the breast is the most common malignancy among women in our practice and is a leading cause of death from cancer among women globally.[1] Complications of the breast cancer occur often in the late stages of the disease and its presentation depends on its specific location(s) and pathology. Common dermal complications of breast cancer include peau d'orange, nipple retraction, ulcerations, Paget's disease of the nipple and areola and erythema in inflammatory breast cancer.[2] Carcinoma-en-cuirasse is a rare[3] dermal complication of breast cancer in which the skin of the chest wall and abdomen is infiltrated by cancer cells, presenting as localized or diffused nodular and or plaque-like lesions which often may occur months or years post-therapy for breast cancer.[4] The condition is very rare in clinical practice and on this account experience on its management is limited.

The disease occurs in both genders and may occur with or in the absence of active treatment for breast cancer, and the lesions may be localized to the chest wall or widespread to involve other anatomical regions. The prognosis of the disease remains poor partly because of the late stage of the breast cancer. We encountered two cases of carcinoma-en-cuirasse and their clinical presentation and management outcome are presented.

Case 1

A 48-year-old lady who was diagnosed two years earlier with stage II invasive ductal carcinoma of the left breast. She previously received neo-adjuvant combination chemotherapy but defaulted on her treatment after two doses on account of the unpleasant toxicities she experienced and also failed to present for the proposed mastectomy. She re-presented six months later with an ulcer in her left breast.

She was pale, with a pulse rate of 85 and respiratory rate of 25/minute. Her right breast had peau d'orange and had a lump measuring 4cm by 2cm by 2cm in the upper outer quadrant. There were hard matted right axillary nodes. Her left breast had extensive peau d'orange and was replaced by a mass 12cm by 7cm by 5cm. There was an irregular ulcer 3cm by 2cm inferior to the nipple having a necrotic floor and everted edges. Her diagnosis was bilateral breast cancer. She objected to recommencing intravenous chemotherapy and was placed on tablets

capecitabine and letrozole. The ulcer healed in sixteen weeks and the right breast lump was barely palpable and she again defaulted. She re-presented after a year with diffuse nodular lesions on her anterior and posterior chest and abdominal wall as well as both upper arms. She was ill-looking and pale. Her two breasts were represented by the nipples only. There was extensive ulceration of the anterior aspect of the left chest wall while on the right the nodules coalesced (Fig 1 and 2). The posterior chest wall and upper arms and neck had extensive plaque-like lesions. Chest X-ray showed pulmonary and osseous metastases. A diagnosis of carcinoma-en-cuirasse was made. She failed to recover with palliative chemotherapy.

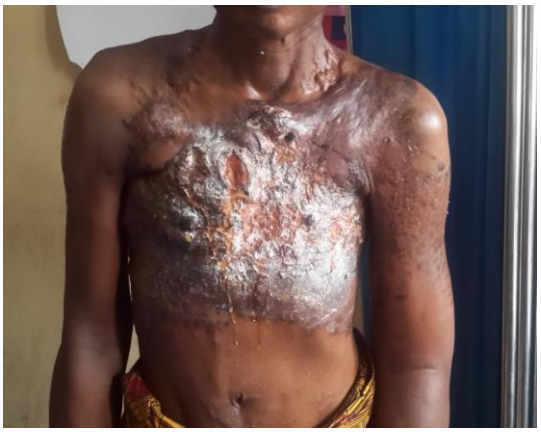

Figure 1: Extensive nodular lesions and ulceration of the anterior chest wall, neck and upper arm in a female. Note bilateral auto-amputation of the breasts which are represented by the nipples.

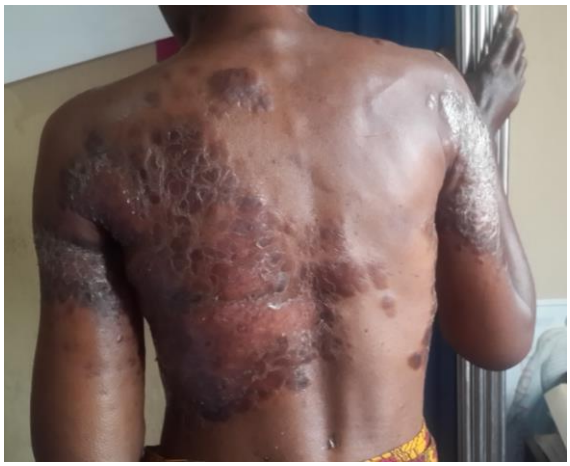

Figure 2: Extensive plaque-like skin lesions on the posterior chest/abdominal wall and upper arms which is typical of the second stage of the disease. There is oedema of the arms as well.

Case 2

A forty-five-year-old male presented with a painless, slow-growing, right breast lump of eight months. He was otherwise healthy. The lump was 5cm by 3cm by 2cm, hard and mobile. It was not attached to his chest wall and there was no palpable axillary node. His right breast was grossly normal. A core biopsy of the lump showed invasive ductal carcinoma and he was advised to undergo mastectomy but defaulted and had no form of therapy.

He re-presented two years later with an ulcer in his right breast and extensive nodules on

his anterior and posterior chest wall. He was ill looking with severe weight loss, pale with a respiratory rate of 35/minute. He had ptosis of the right eye lid. The right breast ulcer had raised irregular margins and a necrotic floor. It measured 5cm by 3cm and the base was fixed to the chest wall and upper right arm (Fig. 3). There was reduced air entry and diffuse bronchial sounds in both lungs. A clinical diagnosis of carcinoma-en-cuirasse with cranial metastasis was made and a treatment plan initiated but he opted for alternative treatment and was lost to follow-up.

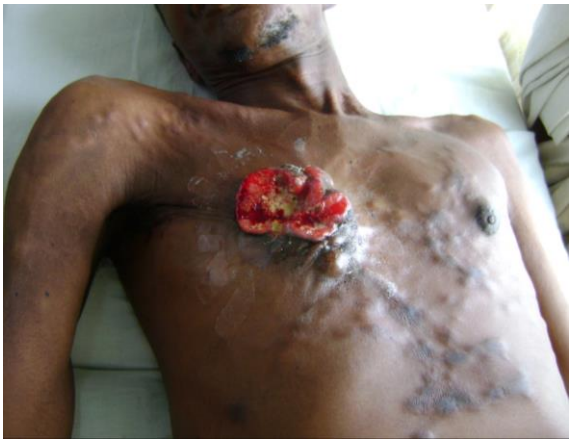

Figure 3: Ulceration of the right breast and nodular lesions of the anterior chest wall, central portion of the upper abdomen and right arm in a male.

Discussion

Carcinoma-en-cuirasse is a very rare condition seen in breast cancer patients in which the skin of the chest wall and adjacent anatomical regions is infiltrated by tumour cells presenting as nodules or plaques,[5] with the chest wall appearing as an "amour plate" as first described by Velpeau in 1838[6]. It is uncommon in our practice and is seen in patients with advanced breast cancer having local recurrence after varying time duration post mastectomy, chemotherapy or radiation therapy.[3, 7] It can, however, be encountered in some patients even in the absence of previous or current active treatment for breast cancer as in the second case.

The diagnosis of carcinoma-en-cuirasse in both patients was based on typical history, physical findings and tissue diagnosis of the skin lesions. The initial presentation of carcinoma-en-cuirasse is usually with nodules in a background of erythema, these lesions may not be easily appreciated in dark-skinned persons and this stage is followed by coalescence of the nodules to form plaque-like lesions which is typically seen on the posterior chest and abdominal wall of our first patient.[8] With late presentation, the nodules and plaques spread to involve the skin of the posterior chest, abdomen, arms and neck (Fig 2). Extensive ulceration of the lesion, as observed in the first case presented, is not frequently seen.

Investigation and treatment of these patients was challenging; their poor social

circumstances meant they could not purchase the appropriate modalities like immune-histochemistry and PET/CT scan required for a proper evaluation and planning for therapy. Same applied to the appropriate medications, hence our reliance on evidence from clinical findings to make the diagnosis. Both patients had clinical evidence of metastases to the lungs, bones and central nervous system. These findings would suggest carcinoma-en-cuirasse to be associated with multiple metastases, an advanced breast cancer requiring targeted therapy which was not possible considering the very poor social circumstances of the patients which negatively impacted their management from the onset of the breast disease and a therefore a poor prognosis.

There is currently no consensus on the treatment protocol for carcinoma-en-cuirasse owing to the paucity of cases globally and limited experience on the management of the disease condition. The main focus of treatment is usually on palliation. Different therapeutic approaches employed in managing the disease include chemotherapy, radiotherapy and hormonal therapies.[9] Letrozole produced significant control of the lesions for longer than a year in the patient who had it to the extent of the healing of the initial ulcers.

Conclusion: Carcinoma-en-cuirasse is a rare dermal complication of metastatic breast cancer which commonly present as nodular lesions on the chest wall. The disease may show response to chemotherapy and letrozole but generally has a poor prognosis.

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