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Case Report

Surgery Section

Carcinoma en Cuirasse: A Rare Entity in Young Women

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ABSTRACT

Carcinoma en Cuirasse is a rare form of cutaneous metastasis most commonly associated with advanced breast carcinoma. It is characterised by diffuse dermal infiltration resulting in indurated, sclerodermoid thickening of the skin, because of its rarity and its resemblance to benign dermatological conditions, diagnosis is often delayed, particularly in young patients. Hereby, the authors report the case of a 24-year-old female who presented with progressive skin thickening over the left breast and was initially managed as a dermatological condition. Due to the atypical presentation and young age of the patient, an underlying malignancy was not suspected at presentation. Further evaluation with imaging and histopathological examination revealed breast carcinoma with extensive cutaneous metastatic involvement consistent with Carcinoma en Cuirasse. The patient was subsequently referred for oncological management. The present case highlights an unusual presentation of metastatic breast cancer in a very young woman and emphasises the importance of considering underlying malignancy in patients with persistent sclerodermoid skin lesions. Early recognition of Carcinoma en Cuirasse is important as it usually indicates advanced disease and poor prognosis. The present case highlights the aggressive biological behaviour of carcinoma en cuirasse, its occurrence in a young woman, and the diagnostic difficulties posed by its resemblance to benign inflammatory and dermatological disorders. Early biopsy of persistent breast skin lesions and multidisciplinary evaluation are essential for timely diagnosis and management.

Keywords: Breast neoplasms, Cutaneous metastasis, Dermis, Triple negative breast neoplasms

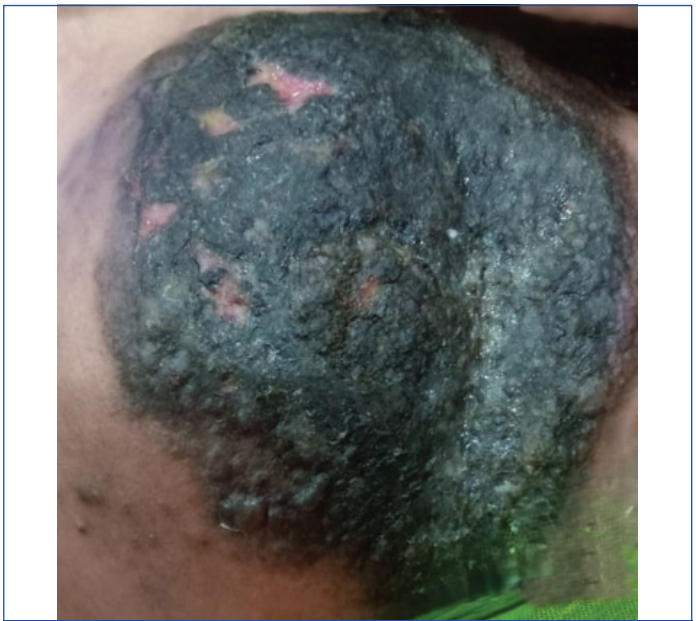
CASE REPORT

A 24-year-old unmarried female presented with progressive blackish discolouration of the left breast skin for three months, associated with breast pain, skin tightness, and progressive induration. She also complained of pain, erythema, and swelling of the right breast for one month. There was no history of fever, nipple discharge, trauma, or significant weight loss.

Four months before presentation, the patient developed pain, erythema, and swelling of the left breast and was diagnosed with mastitis based on Fine-Needle Aspiration Cytology (FNAC) findings. Incision and drainage were subsequently performed. Approximately, four weeks later, multiple small cutaneous nodules appeared around the previous incision site. Over the subsequent six to eight weeks, these nodules gradually enlarged and coalesced, ultimately involving almost the entire left breast and producing diffuse black indurated plaques. Approximately one month before presentation, similar inflammatory changes developed in the contralateral breast, prompting dermatological consultation.

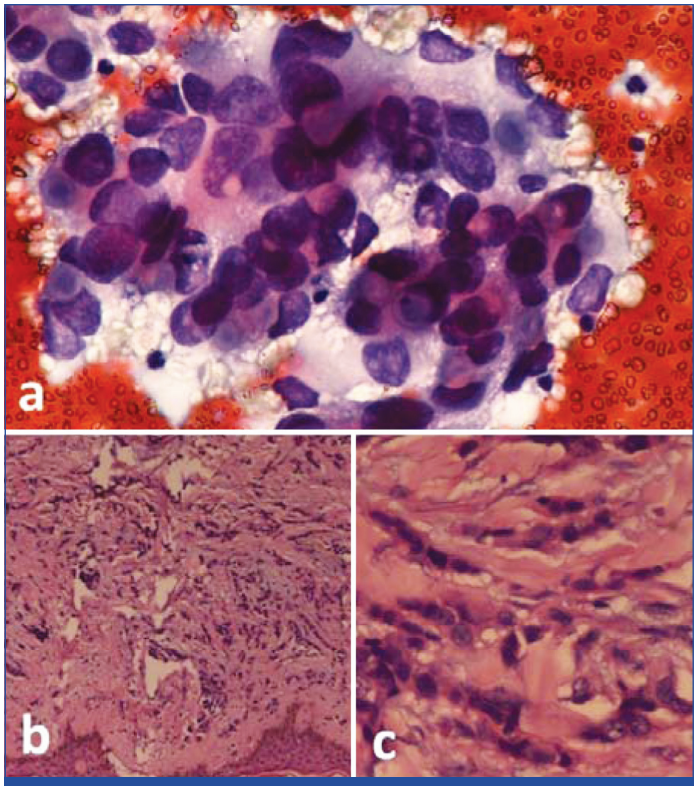
On examination, extensive black crusted plaques with diffuse induration involved the left breast skin, producing an armour-like appearance suggestive of carcinoma en cuirasse [Table/Fig-1]. The crusts were firmly adherent and difficult to remove. The right breast demonstrated diffuse erythema, tenderness, and swelling. Axillary lymph nodes were not palpable at presentation. Based on the clinical presentation, differential diagnoses included chronic mastitis, inflammatory breast carcinoma, cellulitis, morphoea, and cutaneous metastatic disease.

Cross-sectional imaging and metastatic work-up were planned; however, the patient presented with advanced disease, and management decisions were based primarily on clinical and histopathological findings. Cytological examination of a skin nodule from left breast demonstrated cohesive clusters of malignant epithelial cells [Table/Fig-2a]. Histopathological examination {Haemotoxylin and Eosin (H&E)} of the skin biopsy revealed infiltration of the dermis by malignant epithelial cells arranged in irregular nests and tubules within a fibrotic stroma. The tumour cells exhibited enlarged



[Table/Fig-1]: Carcinoma en Cuirasse: black plaque on breast with diffuse induration.

hyperchromatic nuclei with irregular nuclear membranes, consistent with metastatic ductal carcinoma involving the skin [Table/Fig-2b,c]. Core needle biopsy from the right breast revealed invasive ductal carcinoma with clinicopathological features of inflammatory breast carcinoma. Immunohistochemistry demonstrated a triple-negative receptor profile. Although inflammatory carcinoma was confirmed in the contralateral breast, the extensive cutaneous involvement was confined predominantly to the left breast. Therefore, the precise site of origin could not be definitively established; however, the overall clinicopathological findings were consistent with carcinoma en cuirasse secondary to advanced breast carcinoma. Detailed Tumor, Nodes, and Metastasis (TNM) staging and Positron Emission Tomography-Computed Tomography (PET-CT) evaluation were not available because of the advanced stage at presentation and the decision to proceed with palliative treatment. The patient



[Table/Fig-2]: a) Cytology smear from skin nodule showing cohesive clusters of malignant cells, (H&E,40×); b) Tissue section showing irregular nests of malignant ductal epithelial cells just beneath the skin, (H&E, 10×); c) Tissue section from beneath skin showing irregular nests and tubules of malignant ductal cells with large hyperchromatic nucleus and irregular membranes in the stroma, (H&E, 40×).

was commenced on palliative chemotherapy but succumbed to progressive disease six months later.

DISCUSSION

Breast cancer is the most common malignancy among women and the leading cause of cutaneous metastases in female patients [1,2]. Carcinoma en cuirasse is a rare form of cutaneous metastatic breast cancer characterised by diffuse dermal infiltration and fibrosis, producing a sclerodermoid, armour-like appearance of the skin [3,4]. It results from tumour infiltration of dermal lymphatics and soft tissues with a marked desmoplastic response, leading to progressive skin thickening and induration. As lesions may mimic benign inflammatory or fibrosing skin disorders, diagnosis is often delayed [3,4].

Breast carcinoma is uncommon in women younger than 30 years, and carcinoma en cuirasse is exceedingly rare in this age group [5]. Most reported cases have involved older women with recurrent or metastatic breast cancer [6]. This 24-year-old patient presented with inflammatory skin manifestations that led to the diagnosis of an aggressive underlying breast malignancy, making this a rare addition to the limited literature on Carcinoma en Cuirasse in young adults. The patient's earliest symptoms included breast pain, erythema, and swelling-findings commonly associated with benign inflammatory breast conditions. Consequently, incision and drainage were performed following cytological evaluation. The delayed diagnosis was likely attributable to the initial clinical resemblance to mastitis, resulting in surgical intervention before malignancy was suspected. Persistent symptoms despite appropriate treatment, particularly when accompanied by progressive skin induration and multiple nodules, should prompt reconsideration of the diagnosis and early tissue biopsy.

Several reports have highlighted similar diagnostic difficulties. Wang H et al., described a case of Carcinoma en Cuirasse that clinically mimicked post-radiation morphoea, leading to delayed diagnosis [3]. Similarly, Godbole M et al., emphasised the close resemblance of Carcinoma en Cuirasse to benign dermatological disorders and the critical role of histopathological confirmation [4]. These observations underscore the ability of Carcinoma en Cuirasse to masquerade as mastitis, cellulitis, morphoea, scleroderma, or other inflammatory dermatoses, thereby delaying definitive diagnosis and treatment.

The differential diagnosis in the present patient included chronic mastitis, cellulitis, inflammatory breast carcinoma, morphoea/scleroderma, and cutaneous metastatic disease. Clinical differentiation among these entities can be challenging because erythema, oedema, and skin thickening are common features. Histopathological examination therefore remains the cornerstone of diagnosis [7]. In the present case, skin biopsy demonstrated infiltration of the dermis by malignant epithelial cells arranged in irregular nests and tubules within dense fibrotic stroma, findings consistent with metastatic ductal carcinoma involving the skin.

The extensive fibrosis observed in Carcinoma en Cuirasse is not merely a histological hallmark but may also have therapeutic implications. Dense stromal fibrosis can impede drug penetration and contribute to the limited response often observed with systemic therapy in advanced cutaneous metastatic disease [4]. Consequently, treatment is generally directed toward systemic disease control and palliation rather than cure. Depending on disease extent and receptor status, therapeutic options include chemotherapy, targeted therapy, endocrine therapy, radiotherapy, and selected palliative surgical interventions [8]. Carcinoma en Cuirasse has a generally poor prognosis, as it usually reflects advanced local or systemic disease at presentation [9]. Another significant feature of the current case was the co-existence of triple-negative inflammatory breast carcinoma. Both triple-negative and inflammatory breast cancers are associated with aggressive behaviour and poor prognosis [10]. Their coexistence, along with extensive cutaneous metastasis, likely contributed to the rapidly progressive clinical course observed in our patient.

In the present case, there was rapid progression despite palliative chemotherapy, with death occurring within six months, highlighting the aggressive nature of this condition and the need for early recognition. Clinically, persistent breast skin lesions that do not respond to standard therapy should not be assumed to be benign inflammatory conditions, especially when associated with induration, nodularity, or atypical pigmentation. Early biopsy is essential to avoid diagnostic delay, confirm the diagnosis, and enable timely multidisciplinary management.

CONCLUSION(S)

The present case highlights the importance of recognising Carcinoma en Cuirasse as a rare but aggressive form of cutaneous metastasis that can occur even in very young women. Its resemblance to benign dermatological conditions may lead to delayed diagnosis and progression to advanced disease. Reporting such uncommon presentations is important to increase clinical awareness among dermatologists and surgeons, emphasising the need for early biopsy and multidisciplinary evaluation of suspicious breast skin lesions. Early identification may facilitate timely management and help avoid delays in diagnosis in similarly aggressive cases.

REFERENCES

[1] Lookingbill DP, Spangler N, Sexton FM. Skin involvement as the presenting sign of internal carcinoma: A retrospective study of 7316 cancer patients. J Am Acad Dermatol. 1990;22(1):19-26.
[2] Brownstein MH, Helwig EB. Patterns of cutaneous metastasis. Arch Dermatol. 1972;105(6):862-68.
[3] Wang H, Bao C, Gong T, Ji C. Case report: Carcinoma en cuirasse in a middle-aged woman mimicking postirradiation morphea. Front Oncol. 2021;11:747123. Doi: 10.3389/fonc.2021.747123.
[4] Godbole M, Wani K, Zia S, Dabak V. Carcinoma en cuirasse: A rare but striking cutaneous manifestation of metastatic breast cancer. Cureus. 2023;15(6):e39838.
[5] Sung H, Ferlay J, Siegel RL, Laversanne M, Soerjomataram I, Jemal A, et al. Global cancer statistics 2020: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA Cancer J Clin. 2021;71(3):209-49. Doi: 10.3322/caac.21660.

[6] Salemis NS, Christofyllakis C, Spiliopoulos K. Primary breast carcinoma en cuirasse: A rare presentation of an aggressive malignancy and review of the literature. Breast Dis. 2020;39(3-4):155-59. Doi: 10.3233/BD-201020.
[7] Culver AL, Metter DM, Pippen JE Jr. Carcinoma en cuirasse. Proc (Bayl Univ Med Cent). 2019;32(2):263-65. Doi: 10.1080/08998280.2018.1564966.
[8] Kumar PP, Good RR, Jones EO. Rotational subtotal skin electron beam therapy for management of carcinoma en cuirasse. J Natl Med Assoc. 1987;79(7):705-11.
[9] Cabula C, Campana LG, Grilz G, Galuppo S, Bussone R, De Meo L, et al. Electrochemotherapy in the treatment of cutaneous metastases from breast cancer: a multicenter cohort analysis. Ann Surg Oncol. 2015;22 Suppl 3:S442-S450. Doi: 10.1245/s10434-015-4779-6.
[10] Biswas T, Efird JT, Prasad S, James SE, Walker PR, Zagar TM. Inflammatory TNBC breast cancer: Demography and clinical outcome in a large cohort of patients with TNBC. Clin Breast Cancer. 2016;16(3):212-16. Doi: 10.1016/j.clbc.2016.02.004.

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