CASE REPORT

Carcinoma en cuirasse

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SUMMARY

We present a case of carcinoma en cuirasse as a presentation of advanced lobular breast carcinoma. On further investigation, she was found to have metastasis to her liver and bone. We report this case to highlight the phenomenon of cutaneous metastasis. It is important to consider this diagnosis as an initial manifestation of breast cancer, but rarely, it can also be associated with other adenocarcinomas, for example, carcinoma of lung, kidney or gastrointestinal tract.

BACKGROUND

Carcinoma en cuirasse is an uncommon clinical manifestation of metastatic cutaneous carcinoma characterised by diffuse sclerodermoid induration of the skin.¹ We present a case of carcinoma en cuirasse developing as a presenting feature of invasive lobular breast cancer.

CASE PRESENTATION

A 76-year-old woman, without any relevant concomitant diseases, was admitted to the hospital with a collapse episode. During her admission, she was noted to have a 24-month history of an asymptomatic, previously untreated erythematous, indurated skin lesions over her chest and upper abdomen. The patient admitted to a history of weight loss of approximately 4 stone (25.4 kg) over a 9-month period with reduced appetite. She had a positive family history of breast cancer. Patient had avoided consultation with her general practitioner due to fear of doctors.

On skin examination, she was found to have an extensive, prominently indurated infiltration with areas of ulcerations covering the entire anterior chest wall. There was complete destruction of breast architecture with loss of breast tissue volume and areola. The lateral spread was linear with exceptionally sharp demarcation noting multiple erosions. On further examination, left supraclavicular and axillary lymphadenopathy were found (figure 1A,B).

Figure 1 Images of cutaneous malignancy.

Figure 2 CT image of thorax noting bone metastasis.

INVESTIGATIONS

Radiological investigations with a CT of the thorax, abdomen and pelvis noted diffuse abnormalities with sclerotic bony metastases particularly concentrated in the sternum (figure 2) with gross liver metastatic disease. CT brain suggested a possible mild ischaemic event contributing to her collapse episode on presentation.

Laboratory investigations noted a normal full blood count, renal function and magnesium level, however abnormal bone profile: adjusted calcium 2.46 (2.20–2.60 mmol/L), phosphate 0.94 (0.8–1.5 mmol/L), albumin 27 low (35–50 g/L), C reactive protein 59.2 raised (0.6–5.0 mg/L); liver function tests: total bilirubin 10 normal (<21 µmol/L), alkaline phosphatase (ALP) 165 (30–130 U/L), aspartate aminotransferase (AST) 38 raised, alanine aminotransferase (ALT) 14 normal, gamma-glutamyl transferase (GGT) 56 raised; and tumour markers: CA 125 300 raised (0–35 U/mL), CA 19.978 raised (0–37 U/mL), carcinoembryonic antigen (CEA) 16.8 raised (0.0–5.0 ng/mL).

Histological examination of the lesional skin biopsy revealed dense infiltration by malignant epithelial proliferation with plasmacytoid morphology in keeping with involvement by lobular breast carcinoma, while a core biopsy of a left chest nodule noted an infiltrate of neoplastic cells invading in an Indian file single-cell pattern with morphological appearances in keeping with involvement by lobular breast carcinoma. Immunohistochemical stains show diffuse strong staining for oestrogen receptor (100%) but weak staining for progesterone receptor (10%). Human epidermal growth factor status was negative (figure 3A,B).

DIFFERENTIAL DIAGNOSIS

- ▶ Cutaneous infection: bacterial, viral or fungal spread.
- ▶ Severe erosive Paget's disease of the breast.
- ▶ Erosive primary cutaneous malignancy: squamous cell carcinoma.

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Figure 3 Histology images.

- ▶ Cutaneous secondary spread of organ malignancy: likely breast malignancy.

TREATMENT

Our patient's case was discussed at the multidisciplinary meeting with the oncology and breast team present. She was commenced on hormonal therapy, letrozole 2.5mg once daily, which is an active non-steroidal aromatase inhibitor and was seen by tissue viability nurses. The palliative care team optimised pain control management and dietitian support commenced high-calorie shakes and emulsions.

OUTCOME AND FOLLOW-UP

Management was mainly palliative and radiotherapy was not indicated. Six weeks later, the patient passed away.

DISCUSSION

Carcinoma en cuirasse is an uncommon clinical manifestation of metastatic cutaneous carcinoma characterised by diffuse sclerodermoid induration of the skin.¹ We hereby present a case of carcinoma en cuirasse developing as a presenting feature of invasive lobular breast cancer.

Breast cancer is the most common malignancy in women with approximately 25% of these patients developing cutaneous metastases in comparison with 5% cutaneous metastases prevalence in the general population of patients with cancer.^{2,3} While en cuirasse metastatic disease is more commonly seen in breast cancer cases, it is rarely seen in lung, kidney and gastrointestinal carcinomas. Cutaneous metastasis is associated with advanced stage of cancer and poorer prognosis.¹

The name carcinoma en cuirasse was coined by Velpeau in 1838 as a distinct clinicopathological type of cutaneous metastasis based on the resemblance to steel breastplate of cuirassier (cavalry soldiers).⁴ It is more usual for carcinoma en cuirasse to present as a tumour recurrence after mastectomy, radiation or chemotherapy, but as in our case, it can also present as a feature of occult breast cancer in the setting of untreated malignancy.

The time between diagnosis of breast cancer and resultant cutaneous metastases is variable but is usually more common within the first 3 years after detection of the primary tumour.⁵

Learning points

- ▶ Carcinoma en cuirasse is an uncommon clinical manifestation of metastatic cutaneous carcinomas.
- ▶ Breast cancer is the most common malignancy in women; approximately 25% of patients develop cutaneous metastases.
- ▶ Genetic predisposition increases the lifetime risk of breast cancer. Mutations of BRCA1/BRCA2 genes are responsible for DNA repair heighten this risk of breast cancer.

The pathogenesis of carcinoma en cuirasse is largely unknown and treatment options are limited.

Our patient's case was discussed at the multidisciplinary meeting with the oncology and breast team present. She was commenced on hormonal therapy, an active non-steroidal aromatase inhibitor. Patient was seen by tissue viability nurses and offered dietician support. However, her management was mainly palliative and radiotherapy was not indicated.

Genetic predisposition increases the risk of breast cancer with mutations in BRCA1 or BRCA2, as these genes are expressed in the cells of breast and help repair damaged DNA.⁶ Given her family history of breast cancer, the patient was made aware of the high risk of carrying the BRCA gene and gene testing may be indicated for family members.

Our case highlights that the evidence of cutaneous metastasis is of extreme importance for the diagnosis, staging and prognosis of an internal cancer. The dermatologist plays an important fundamental role and should always be attentive to the challenges of early detection, diagnosis and treatment.

Contributors AA: I as first author have reviewed this clinical case first hand and assessed the patient clinically. As this was an interesting case I conducted a literature search and compiled this case report. My supervisors in writing this case report were GR (consultant geriatrician) and OK (consultant dermatologist). GR reviewed this interesting case and helped edit the case report and reviewed the references. OK reviewed this dermatology-related case report and edited as appropriate for the reader. She also helped review the relevant references.

Competing interests None declared.

Patient consent Obtained.

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