BMJ Case Reports

Unusual association of diseases/symptoms

Cutaneous metastases from breast carcinoma

Muneer Ahmed

General and Breast Surgery, Shrewsbury and Telford NHS Trust, Telford, UK

Correspondence to Mr Muneer Ahmed, muneer_ahmed@hotmail.co.uk

Summary

We report the case of a rare presentation of cutaneous metastatic breast carcinoma. A 72-year-old lady who was previously fit and well presented with a 2-month history of a rash over the left breast. Clinically, in addition to the rash, she had a fixed tender mass of left supraclavicular fossa and left axillary lymph nodes. Punch biopsy of the skin demonstrated metastatic carcinoma and ultrasound of the left breast revealed a 9 mm irregular mass which was biopsied, demonstrating poorly differentiated grade III adenocarcinoma. She was oestrogen receptor negative but human epidermal growth factor receptor-2 positive on immunohistochemistry. She is currently undergoing chemotherapy with taxotere and herceptin.

BACKGROUND

The incidence of breast carcinoma cutaneous metastases in patients with breast carcinoma is 23.9%. General clinicians should be aware of this presentation including rarer forms such as in our case with dermatitis-like metastases of breast carcinoma and ensure that, triple assessment (clinical examination, radiological investigations and histological core biopsies) of the breast is performed. In addition, it is very rare to have cutaneous metastases as the first sign of primary tumour disease as in our case with only a single other case represented in the literature.

CASE PRESENTATION

A 72-year-old Caucasian lady was referred to the breast clinic by the dermatology team with a 3-month history of a rash on her left breast. Two months after the rash appeared, she developed left-sided breast pain. The rash became increasingly florid over her chest and neck and she developed swelling of her left arm. She was otherwise in good general health with medically controlled hypertension, a non-smoker and non-drinker and was an avid gym goer. There was no family history of breast cancer.

On examination, there was a fixed tender mass of left supraclavicular fossa and axillary lymph nodes. The left breast was oedematous with generalised thickening and there was an extensive erythematous rash over the left breast extending towards the neck (figure 1).

INVESTIGATIONS

Her full blood count, biochemistry and liver function tests were normal. Punch biopsy of the skin demonstrated metastatic carcinoma of unknown origin. An ultrasound of the left breast was requested and revealed a 9 mm irregular mass which was biopsied demonstrating poorly differentiated grade III adenocarcinoma. CT did not demonstrate any additional metastatic disease. She was oestrogen receptor negative but Her-2 positive on immunohistochemistry.

DIFFERENTIAL DIAGNOSIS

A 72-year-old female who is fit and well presenting with skin changes to the breast and lymphadenopathy may well be suffering from manifestations of cutaneous breast carcinoma or localised haematological malignancy. Possible benign conditions such as dermatitis or shingles are possible but less likely.

TREATMENT

She was referred to the oncology team and commenced upon chemotherapy with Taxotere and Herceptin.

OUTCOME AND FOLLOW-UP

She is currently undergoing her treatment with chemotherapy and Herceptin.

DISCUSSION

Cutaneous metastases of primary internal malignancies are relatively uncommon with an incidence ranging between 0.7–10.4%.[1 2] The most common skin metastases encountered in women overall, originates from breast malignancies. The incidence of breast carcinoma cutaneous metastases in patients with breast carcinoma is 23.9%.[2] The lesions usually occur in the skin overlying or proximal to the area of the primary tumour with most of the metastases occurring due to lymphatic spread of tumour cells.[3]

In clinical practice, cutaneous metastases show a wide range of clinical manifestations. Some of the more commonly known cancer by clinicians include inflammatory (carcinoma erypsiloides) breast cancer and Paget's disease of the nipple. However, the most common presentation is in the form of nodules. Presentation with dermatitis-like metastases as the first sign of breast tumour disease, such as in our case, is one of the rarest presentations, with only a single other reported case in the literature.[4] The unusual nature of such a primary presentation is highlighted in a retrospective study of 42 cases of skin metastases from all malignancies, in which Cidon showed that, in only three cases, (7%) these skin metastases were the first sign of tumour disease.[5] This therefore re-affirming the rarity of

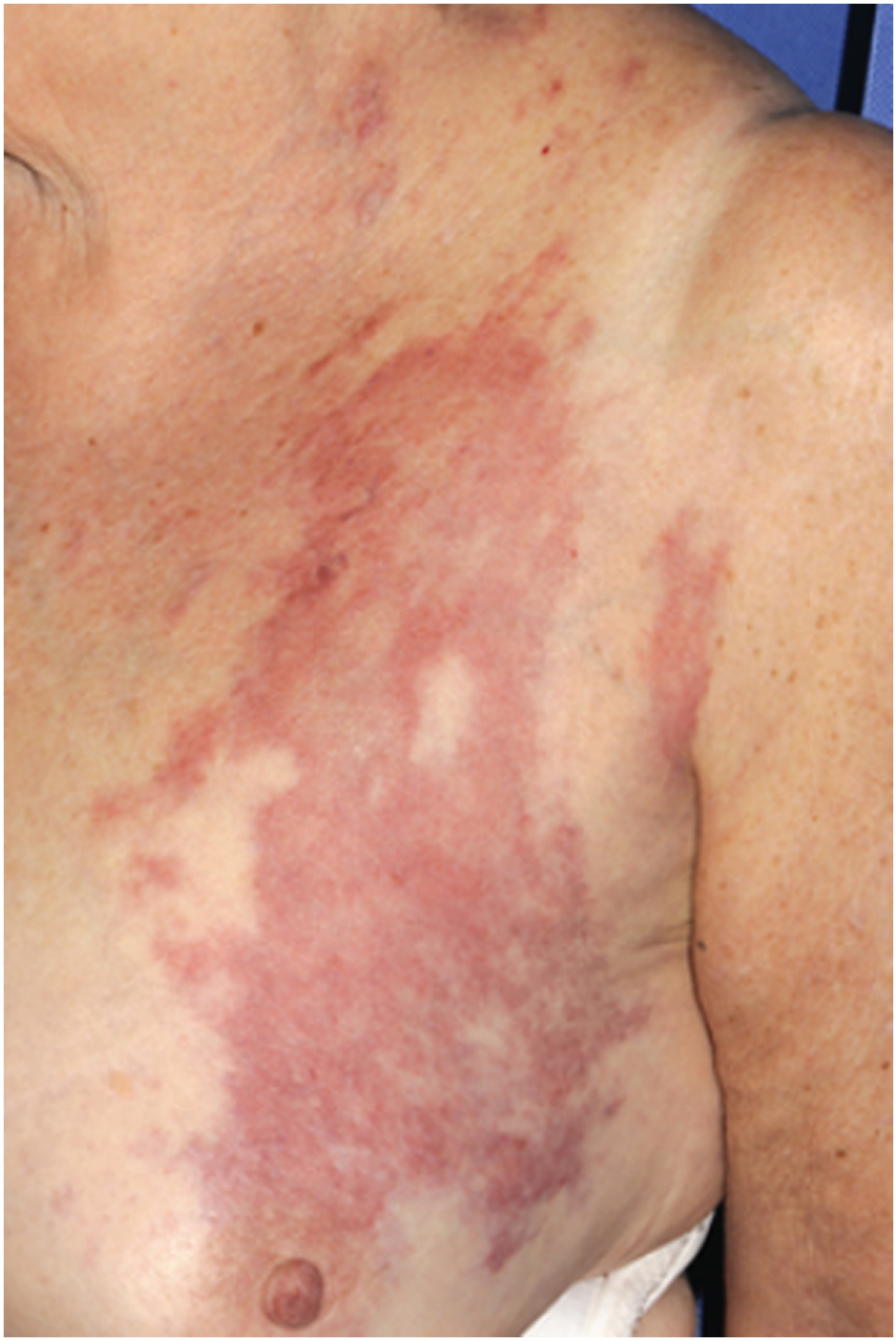

Figure 1 The image demonstrates the left breast which was oedematous with generalised thickening and an extensive erythematous rash extending towards the neck.

this presentation. Interestingly in our case, there was no palpable breast lesion, with the primary tumour only being identified after ultrasonographic imaging.

The prognosis itself depends upon the type and behaviour of the primary tumour. However, as a rule, the expected survival is less than 1 year at the time of diagnosis due to the advanced stage of disease at presentation.[6] In the majority of cases where skin metastasis has occurred, the primary cancer is widespread and therefore not surgically amenable. In such cases, medical treatments in the form of external beam radiotherapy, chemotherapy and hormonal therapy are used depending upon the histological characteristics of the primary tumour. In patients who overexpress the Her-2/neu protein as in our case, systemic combination treatment with chemotherapy and the monoclonal antibody trastuzumab can be used. However, in cases where the primary cancer is not widespread, surgical excision remains the standard treatment for localised

BMJ Case Reports 2011; doi:10.1136/bcr.06.2011.4398

skin metastases of breast cancer. In cases when cutaneous metastases are confined to the breast, complete mastectomy may be an option.[7] However, as mentioned previously, cutaneous metastases usually occur in advanced stages of cancer and therefore are beyond surgical amenability.

Breast carcinoma cutaneous metastases are present in up to 23.9% of all presentations of breast cancer. The spectrum of presentation varies in frequency from the common papulonodular variant to much rarer presentations of dermatitis-like metastases as the first sign of tumour disease as demonstrated in our unusual case. It is essential that clinicians are aware of such phenomenon and proceed to appropriate clinical, radiological and histological assessment of the patient (triple assessment) in order to ensure accurate diagnosis and early appropriate management.

Learning points

- Our case highlights the frequency and range of presentation of cutaneous metastases of breast carcinoma that clinicians should be familiar with.
- We therefore stress the need to perform comprehensive triple assessment of the patient and acquire histological specimens by biopsy of any suspicious lesion in order to ensure that, such malignant lesions are not missed.
- General practitioners and clinicians should not delay in referring patients with skin changes of the breast to specialised units in order to undergo triple assessment.

Competing interests None.

Patient consent Obtained.

REFERENCES

1. **Schwartz RA**. Cutaneous metastatic disease. *J Am Acad Dermatol* 1995;**33**(2 Pt 1):161–82.
2. **Lookingbill DP,** Spangler N, Helm KF. Cutaneous metastases in patients with metastatic carcinoma: a retrospective study of 4020 patients. *J Am Acad Dermatol* 1993;**29**(2 Pt 1):228–36.
3. **Prabhu S,** Pai SB, Handattu S, *et al*. Cutaneous metastases from carcinoma breast: the common and the rare. *Indian J Dermatol Venereol Leprol* 2009:**75**: 499–502.
4. **Ai-Ping F,** Yue Q, Yan W. A case report of remote cutaneous metastasis from male breast carcinoma. *Int J Dermatol* 2007;**46**:738–9.
5. **Cidon EU**. Cutaneous metastases in 42 patients with cancer. *Indian J Dermatol Venereol Leprol* 2010;**76**:409–12.
6. **Cox SE,** Cruz PD Jr. A spectrum of inflammatory metastasis to skin via lymphatics: three cases of carcinoma erysipeloides. *J Am Acad Dermatol* 1994;**30**(2 Pt 2):304–7.
7. **Moore S**. Cutaneous metastatic breast cancer. *Clin J Oncol Nurs* 2002;**6**:255–60.