Unusual presentation of more common disease/injury

Skin lesion in axilla: an unusual presentation of invasive lobular carcinoma of breast

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Summary

Invasive lobular carcinoma (ILC) of breast is known to present with atypical clinical findings in the breast, making it difficult to diagnose. It is also known to have unusual sites of metastases arising de novo or in patients treated for known ILC. Skin lesion in axilla could be a cutaneous metastasis from ILC or ILC in ectopic breast tissue (EBT). We present two cases with skin lesion in axillas which after excision were surprisingly reported as ILC. On further investigations these were found to be primary in EBT. Though such cases are reported, carcinoma arising from EBT is a very rare presentation and one should be aware of this, when dealing with a skin lesion

BACKGROUND

Invasive lobular carcinoma (ILC) of the breast can present as diffuse swelling, ill-defined mass or thickening of breast, making the diagnosis difficult.¹ It can also be difficult to diagnose with mammography because of subtle changes that mimic normal breast parenchyma, or a mass that is poorly delineated.¹ Sometimes, it can present as metastatic deposits from a very small primary breast lesion.¹ ILC of the breast is known to metastasise to unusual sites, including gastrointestinal tract,² gynaecological tract (particularly ovary)² and skin.³ It has also been reported in ectopic breast tissue (EBT), which can present as a cutaneous lesion,⁴ exemplified by two cases presented here. Any skin lesion in axilla should certainly be sent for histology and ILC should be one of the differential diagnoses. As it happened in our cases, the diagnosis came as a surprise.

CASE PRESENTATION

Case 1

A 51-year-old lady presented to general physician with pea sized nodule in her right axilla, which he excised. This was reported as ILC grade 2. On examination in our breast clinic after excision, there was some lumpiness in her right breast with a scar in the axillary region. Histological review showed adjacent breast tissue, some of which showed lobular neoplasia in situ. This was thought to represent, a primary ILC arising within EBT. The ILC was incompletely excised.

Case 2

A 33-year-old woman, presented with boils all over her body and a swelling in the left axilla in the 16th week of her third pregnancy. A pelvic ultrasound picked up a right ovarian mass. She had caesarean section and excision of right cystic ovarian mass, which was reported as a benign tumour possibly a Luteoma of pregnancy. The lump in her left axilla was later excised, 2 months after delivery,

which was reported as grade 1 ILC in EBT. There was no palpable abnormality in the breasts.

INVESTIGATIONS

Case 1

Bilateral mammogram and ultrasound (US) of the right breast showed no suspicious lesion. US of right axilla showed one indeterminate enlarged lymph node, the US-guided fine needle aspiration cytology (FNA) of which showed no malignant cells. MRI of breasts showed focal area of enhancement in the lower half of the right breast suspicious of carcinoma. US-guided FNA of this was non-malignant. CT scan showed no evidence of metastases.

Case 2

Bilateral mammogram and MRI of her breast did not find a 'primary'. Histological review of the ovarian lesion was thought to represent metastasis from lobular cancer. Staging CT scan and bone scan did not reveal any metastases elsewhere.

TREATMENT

Case 1

She went on to have US-marked right breast wide local excision (WLE) of the lesion seen on MRI, excision of right axillary scar and sentinel node biopsy. Histology from both the axillary scar and the breast WLE showed benign tissue and the lymph node was negative. She was referred to oncologist for radiotherapy of the breast and axilla and endocrine therapy.

Case 2

Later, she had a re-excision of axillary area, along with axillary nodal clearance. Two of 16 nodes showed metastatic deposits. There was residual cancer which was completely excised. As the excised ovary was the only site of known metastasis and in view of her young age and triple

negative cancer, she received adjuvant chemotherapy and radiotherapy to breast, axilla and supraclavicular fossa.

OUTCOME AND FOLLOW-UP

Both patients were treated successfully and being followed up in the clinics.

DISCUSSION

At 5 weeks of gestation, an ectodermal ridge called 'milk line' develops on the ventral aspect of the trunk of the embryo, which if it does not disappear normally, EBT is formed, with varying degrees of clinical expression.⁵ The incidence of EBT is unknown, but it is believed to be about 1%.⁶ EBT is subject to all of the physiological and pathological changes of the normal breast, including carcinoma.⁵

EBT, which includes both supernumerary and aberrant breast tissue, is the most common congenital abnormality of the breast. Supernumerary breast tissue is seen mostly along the milk line extending from the axilla to the inguinal region,^{5 6} the axilla, chest wall and vulva being the most common sites. Aberrant breast tissue is mammary glandular parenchyma found in the region of, but beyond the usual anatomic extent of the breast.⁷ When it is presented without the nipple, located beyond the periphery of the gland, it is frequently misdiagnosed as a subcutaneous lesion.⁸

EBT is frequently bilateral and its presence should prompt evaluation for a contralateral counterpart.⁹ EBT stays dormant until puberty and is often noticed only during pregnancy or lactation, as hormonal stimulation can cause engorgement in EBT.^{5 8}

Carcinoma of EBT accounts for about 0.3–0.6% of all breast cancers.^{5 8} There have been several reports of these in the literature. The diagnosis of carcinoma arising from EBT can be difficult and without a nipple or areolar complex, in the axilla or extra-axillary region, it is frequently confused with a subcutaneous nodule.^{5 8} Early diagnosis relies on histology from the lesion since the clinical diagnosis is unreliable.⁹ If unaccompanied by a nipple–areolar complex, the mass may be misdiagnosed as a lipoma, lymph node, sebaceous cyst or hidradenitis suppurativa.⁷

Carcinoma arising from EBT is diagnosed like regular breast carcinoma using clinical examination, US, rarely mammography, FNA, core-needle biopsy or excision biopsy.⁸ Physical examination and axillary US are appropriate especially for the evaluation of axillary breast tissue. Standard mammograms do not usually show EBT because of its location, but with special positioning of the patient, they are sometimes imaged. MRI has been reported to be more sensitive than mammography and US in the detection of ILC and assessing disease extent before surgery.

WLE and regional lymph node staging,⁸ followed by radiation therapy, chemotherapy or endocrine therapy, based on tumor, node, metastasis staging and hormone receptor status, is the best treatment option.⁶ Adjuvant radiation therapy to the axilla (as that is the region of primary site of the cancer) is given to minimise the risk of locoregional recurrence.

The decision to include ipsilateral breast irradiation should be based on pathological interpretation of the

tumour to exclude surrounding lymph node tissue and information derived from breast US and MRI scans to ascertain the possibility of a primary tumour within the normal breast. If any level of uncertainty exists about the nature of the ectopic origin, then ipsilateral breast irradiation should be included as part of the treatment plan, as was done in our case. The evidence for benefit of irradiation of the ipsilateral breast is less clear.

Lymphatic exploration is based on the location of the ectopic breast and known patterns of drainage, as described by Sappey.¹⁰ Lesions above a 2-cm wide, circumferential periumbilical band at the 12th rib are predicted to drain to the axillary nodes, whereas lesions below this band are predicted to drain to the inguinal nodes. Lymphatic drainage of the ectopic breast may be unpredictable.

With the location of the primary tumour in the axilla, radionuclide injection would create unacceptable shine-through. For that reason, radionuclide and blue dye could be injected into the retroareolar region. A small amount of blue dye could also be injected around the tumour.

Although there are no prognostic conclusions available because of the rarity of this disease, carcinoma in EBT, seems to have a poorer prognosis than cancer in normal breast parenchyma.⁶ This is thought to be because early diagnosis is difficult and also it may metastasise to lymph nodes earlier and more frequently than normal breast carcinoma.⁸

Learning points

- ▶ Any skin lesion should be sent for histology.
- ▶ With any skin lesion in axilla, one should be aware of invasive lobular carcinoma in ectopic breast tissue.
- ▶ It can be treated but early diagnosis is important for good outcome.

Competing interests None.

Patient consent Obtained.

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Please cite this article as follows (you will need to access the article online to obtain the date of publication).

Dhebri A, Shah N, Sripadam R, Arora PK. Skin lesion in axilla: an unusual presentation of invasive lobular carcinoma of breast. *BMJ Case Reports* 2012;10.1136/bcr-2012-006642, Published XXX

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