Online Case Report

Thymic carcinoma – an unusual cause for unilateral breast oedema

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An 83-year-old lady presented with oedema of the right breast with no focal masses and was found to have a tumour of thymic origin in the anterior mediastinum. We describe this interesting case along with a review of the causes of unilateral breast oedema.

Keywords: Breast oedema – Thymic carcinoma – Mammography

Unilateral breast oedema is characterised by dense breast parenchyma and thickened skin with prominent interstitial markings.¹ There are a variety of causes including malignancy, lymphatic obstruction, benign disease and systemic pathology such as congestive heart and renal failure.

We present the first reported case of unilateral breast oedema due to thymic carcinoma causing lymphatic obstruction.

Thymic carcinoma is a rare tumour of the anterior mediastinum, which often invades adjacent organs such as the lungs, heart and great vessels. It is often asymptomatic and detected whilst investigating other problems, but may present with local cardiovascular or paraneoplastic symptoms. There is a well-known association between thymic tumours and myasthenia gravis. Surgery is the only curative modality,² but many patients are elderly with locally advanced disease. Palliative radiotherapy is often advocated for this group of patients.

Case report

An 83-year-old lady presented with a 3-month history of right breast swelling, shortness of breath and tiredness. On examination, she was noted to have a large right pleural effusion, dilated veins on her chest wall, and a

diffusely swollen and firm right breast. She had no relevant past medical history or family history of breast disease.

She was referred to the consultant breast surgeon, who confirmed a diffusely swollen right breast larger than the left, with no palpable axillary lymphadenopathy. It was felt that mammary pathology was unlikely and that the swelling was oedema secondary to increased lymphatic pressure or superior vena caval obstruction.

Mammography (Fig. 1) and ultrasound of both breasts performed on day 3 of her admission showed generalised oedema and skin thickening in both breasts, worse on the right. No focal mass was seen.

CT scan of the chest performed on day 8 showed an irregular mediastinal mass (Fig. 2) encasing the adjacent vascular structures, consistent with a lymphoproliferative disorder such as lymphoma or leukaemia.

For further investigation, an ultrasound-guided mediastinal biopsy was performed on day 12, which showed CD5 negative squamoid epithelium consistent with a well-differentiated thymic carcinoma (WHO category B3).

She then received a course of palliative radiotherapy to the chest over 10 days, which she tolerated well. She was discharged home on day 36, having made an excellent symptomatic improvement.

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Figure 1 Mammogram of the right breast in a 83-year-old lady showing breast oedema, with prominent interstitial markings and dense breast parenchyma.

Discussion

Unilateral breast oedema is uncommon. There are a number of causes, benign and malignant, related both to primary breast disease and pathology in adjacent organs. In clinical practice, the finding of unilateral breast oedema should be confirmed by imaging and followed with core biopsies in order to exclude an inflammatory breast carcinoma.

In this case, the breast oedema had been caused by both increased lymphatic pressure and a well-compensated SVC obstruction.

Thymic carcinoma is a rare malignancy, most commonly occurring between 40 and 60 years.³ There is no gender predominance. Risk factors are poorly defined, although there is thought to be an association with Epstein-Barr virus. Most patients present with some

Figure 2 CT scan of the thorax, with an arrow indicating the abnormal soft tissue mass in the mediastinum. Also visible are dilated superficial veins over the right chest wall and a right pleural effusion.

symptoms of local growth including cough, dyspnoea, hoarseness and pain. Superior vena cava obstruction is a recognised complication.

The prognosis is often very guarded owing to the propensity of thymic carcinoma to invade adjacent organs: the median survival from diagnosis is around 2 years.³ Surgery remains the only curative modality, although complete resection is rarely possible, most patients presenting with advanced disease.

Conclusions

It is hoped that this case report will highlight the need occasionally to consider unusual causes for symptoms and signs related to the breast.

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