

A rare case of Hodgkin's breast lymphoma masquerading as locally advanced breast carcinoma

Sir,

A 63-year-old woman was referred to our institution in December 2008, with right axillary and breast swelling. Clinically, the right breast was enlarged with an ill-defined mass in the lateral half of the right breast, which appeared to be continuous with a lobulated 20-cm right axillary mass [Figure 1]. There was associated swelling of the arm and dilated veins over the skin of the breast and axilla. Mobility of the right upper limb was limited because of the swelling. There were no obvious lumps in the left breast. Core tissue biopsy had been carried out in another hospital and was inconclusive. Direct core tissue biopsies of the right breast lump and axilla were repeated at our institution which was again inconclusive.

The mammogram was deferred due to difficulty in positioning and extreme pain. Instead, bedside portable ultrasound examination was performed at the outpatient department, which showed diffuse oedema of the breast parenchyma and subcutaneous tissues on initial examination using a 10-MHz linear probe [Figure 2a].

The breast ultrasound using a curvilinear probe revealed deep-seated enlarged axillary lymph nodes [Figure 2b]. Ultrasound-guided trucut biopsy of the lymph nodes was performed but was again inconclusive. Subsequently, she underwent CT scan of the chest, abdomen, and pelvis, which showed diffuse right breast swelling and



Figure 1: Patient with right breast enlargement extending to the axilla. The skin overlying the right breast was oedematous and stretched with dilated veins.

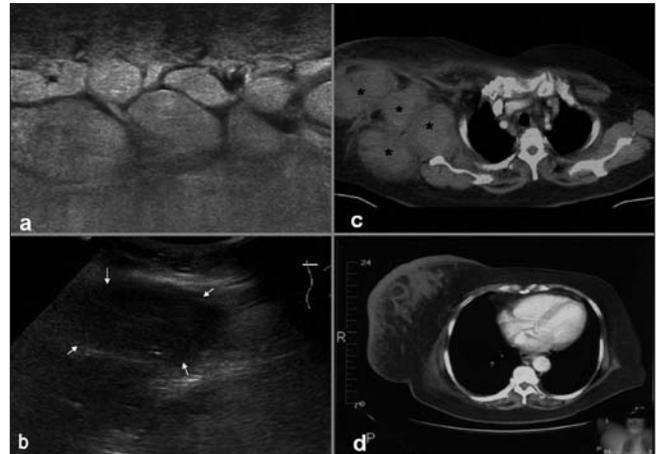


Figure 2: (a) Ultrasound of the right breast demonstrates grossly oedematous tissue. No definite mass lesion was identified within the breast. (b) Well-defined hypoechoic lymph node with loss of fatty hilum (arrows) seen in the right axillary region. (c,d) Contrast-enhanced computed tomography scan showing the multiple grossly enlarged matted right axillary lymph node (asterisks) and diffuse breast thickening involving the periareolar region.

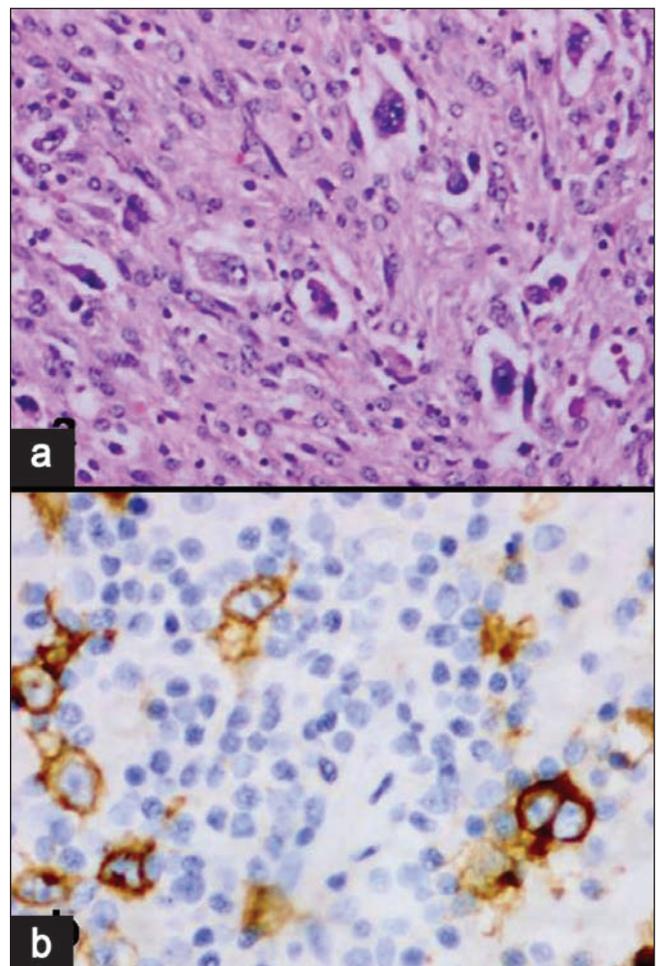


Figure 3: (a) Lymphocyte-depleted Hodgkin lymphoma showing Reed Sternberg cells and other variants in a fibroblastic, lymphocyte-depleted background (H&E; Magnification $\times 20$ objective). (b) CD30 immunohistochemistry showing positive staining in Reed Sternberg and variants (Magnification $\times 40$ objective).

skin thickening and matted enhancing lymph nodes in the right axillary region [Figure 2c and d]. No evidence of disseminated disease was found in the abdomen or pelvis. Because a definite diagnosis of breast cancer was not proven on biopsy, on a clinical diagnosis of locally advanced breast carcinoma, she underwent mastectomy and axillary clearance. At surgery, the lymph nodes were matted together, and residual tumour tissue in the axilla was not resected, as it was stuck to the axillary vein. A frozen section was carried out but other than a report of malignancy, the type of malignancy could not be established.

Histopathology showed a 16-cm yellowish lobulated solid tumour in the lateral half of the breast, with an axillary mass measuring 27 cm in greatest diameter. Sections of the tumour showed malignant tumour involving the breast as well as axillary lymph nodes. These tumours were found to be effaced and replaced with a malignant tumour composed of characteristic Reed Sternberg cells and its variants including multinucleated giant and abnormal cells. Immunohistochemistry for CD30 was strongly positive in these cells [Figure 3a and 3b]. The background showed a prominent fibroblastic proliferation and depletion of lymphocytes, confirming the diagnosis to be lymphocyte-depleted Hodgkin lymphoma.

Postoperatively, the patient recovered uneventfully and was referred to a haematologist for further treatment. She underwent two cycles of chemotherapy with the ABVD regime (Adriamycin, Bleomycin, Vinblastine, and Dacarbazine). She defaulted after two cycles and could not be traced.

Primary breast lymphoma (PBL) is a rare entity accounting for only 1.7-2.2% of the extranodal lymphomas and 0.38-0.7% of non-Hodgkin's lymphomas (NHL).^[1] It comprises about 0.04-0.5% of all malignant breast lesions, while Hodgkin's lymphoma of the breast is even rarer.^[2] A majority of tumours are of B cell lineage.^[1]

Wiseman and Liao^[3] have developed several criteria that must be established, before making a diagnosis of primary malignant lymphoma of the breast. These include adequate pathologic specimen, close association of mammary tissue and lymphomatous infiltrate, absence of disseminated lymphoma at the time of diagnosis, and the presence of ipsilateral axillary nodes is acceptable if they occur concomitantly with the primary lesion. The most common presentation of PBL is painless enlarging breast mass.^[4] On mammograms, these lymphomas may lack the irregular borders of infiltrating carcinomas, and more than half of the

tumours may not exhibit calcification.^[4] Despite the clinical and radiographic similarities between the breast lymphoma and infiltrating breast carcinoma, their treatments differ radically. Mastectomy or wide excision is no longer indicated for primary breast lymphoma and can be avoided. A combination of chemotherapy and radiotherapy (CMT) or chemotherapy alone has recently been used for the treatment of primary breast lymphoma. Combined modality therapy consisting of CHOP (cyclophosphamide, doxorubicin, vincristine, prednisolone) and involved field radiotherapy is regarded as the best treatment in patients with primary breast lymphoma.^[2,5] The best outcome was noted in patients with diffuse B cell lymphoma breast (DBCLB) who were treated with a combination of limited surgery, anthracycline-containing chemotherapy, and involved field radiotherapy, as reported by the International Extranodal Lymphoma Study Group (IELSG).^[6]

If the preoperative diagnosis of breast lymphoma had been confirmed by either core tissue or excision of the axillary nodes in this patient, the mastectomy would have been unnecessary and could be avoided. It is important to accurately distinguish lymphomas from primary breast carcinoma in order to appropriately carry out treatment options, as was illustrated in this case.

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