

Case Report

Primary breast lymphoma

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Primary malignant breast lymphoma is rare, accounting for 0.15% of primary breast malignancies in England¹ and between 0.18% and 0.53% in the United States.^{2,3} This represents 2.2% of all extra-nodal lymphomas.⁴ We report a 75 year old female in whom mammography failed to show any radiographic suspicious features despite the presence of a clinically obvious breast mass. We present the clinical, radiographic and histological features of a primary breast lymphoma with a brief review of the literature.

CASE REPORT The patient was a 75 year old female who presented one week after noticing a lump in her right breast. Clinical examination confirmed the presence of a discrete 2.0-2.5cm mass in her right breast with no overt axillary or supraclavicular lymphadenopathy. A mammogram was obtained but there was no mass lesion or radiographic abnormality corresponding to the clinically palpable mass. A segmental mastectomy was performed to remove the right breast lump.

Histopathological examination showed grossly a 2.2cm tumour with surrounding cuff of normal breast tissue. Histology showed the tumour to be

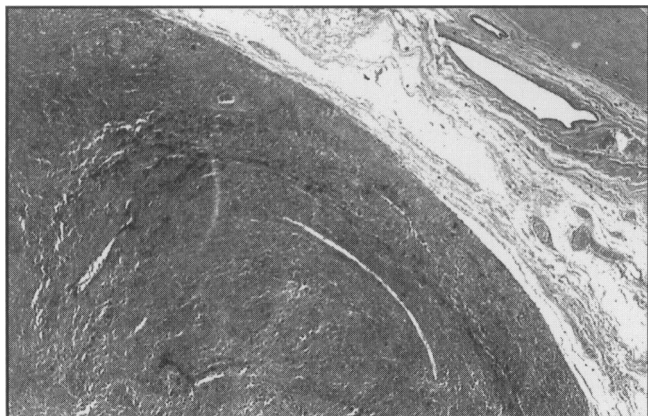


Fig 1a. Low power of fairly well circumscribed cellular tumour with adjacent breast tissue.

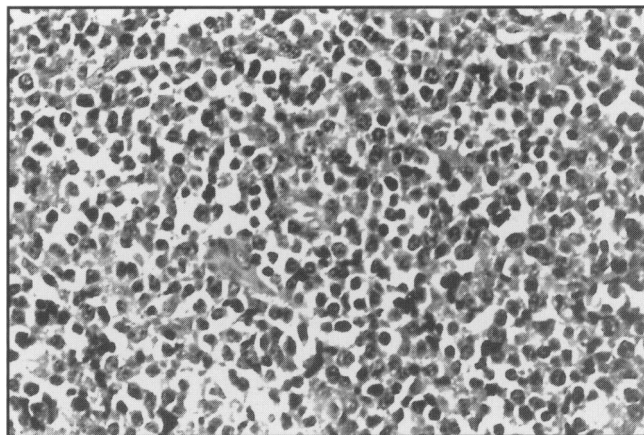


Fig 1b. High power of tumour composed of poorly cohesive cells with darkly staining nuclei and little cytoplasm. Immunohistochemical LCA stain positive for lymphoid tissue.

composed of sheets of small round darkly staining cells with little cytoplasm. Immunohistochemical markers reacted strongly for lymphoid markers whilst epithelial markers were negative. The tumour cells were positive for B-cell markers in keeping with a malignant non Hodgkin's B-cell lymphoma.

In view of this unexpected histological diagnosis she was fully investigated to rule out an extramammary focus of lymphoma: physical examination was otherwise normal; CT scan of

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thorax and abdomen was normal; bone marrow aspirate and trephine was normal. These investigations confirmed the criteria for primary breast lymphoma.

Following her original surgery this lady was treated by the regional oncology service with involved field radiotherapy to breast, ipsilateral axilla and supraclavicular fossa. Chemotherapy was not required. Follow up surveillance is planned but at present this lady is well and disease free.

DISCUSSION

Primary breast lymphoma is a rare tumour with an incidence of only 0.15% of primary breast malignancies in England.¹ This represents 0.7% of non Hodgkin's lymphomas and 1.7% of extra-nodal non Hodgkin's lymphoma.⁵ Therefore it is important to look for extra-mammary evidence of lymphoma before a diagnosis of primary breast lymphoma can be made. To be considered a primary lymphomatous tumour, a close association between mammary tissue elements and the lymphomatous infiltrate is required and patients with pre-existing extra-mammary lymphoma do not qualify.⁶ In this case excision biopsy specimen, computerised axial tomography and bone marrow aspirate satisfied these criteria.

Clinical presentation of mammary lymphoma is often indistinguishable from breast carcinoma, with a mass lesion being common. Bilaterality has been observed in some series^{1-3,7-9} but reports are few and series are often very small. Presentation with a second lesion in contralateral breast has also been reported,^{9,10} but this throws the initial diagnosis into question. Recent reports have linked the specific skin changes of lymphocytic lobulitis with primary breast lymphoma.⁵ Some series suggest a bimodal age distribution but most recent reports suggest peak incidence in the 6th and 7th decades.^{2,8,9}

Histological features in this case showed typical immunohistochemical staining for lymphoid LCA marker while epithelial stains were negative (Figures 1a and 1b). B-cells predominate in this case as in most series; however mixed infiltrates are common.⁷ Histological grade is suggested as a major prognostic indicator with high grade undifferentiated tumours faring worst accounting for a 5 year survival of as little as 49% in some small series.²

Treatment protocols often advise excision biopsy of the tumour both for diagnostic as well as treatment purposes. Management principles then are as for extra-nodal non Hodgkin's lymphoma with involved field radiotherapy to breast, ipsilateral axilla and supraclavicular fossa. Recent series suggest early use of combination chemotherapy may improve outcome⁹ but series are small and treatment protocols often follow those for more common extra-nodal lymphomas. Often chemotherapy is reserved for evidence of disease recurrence or extension.

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