

Non Hodgkin's Lymphoma of the Breast

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Mohammed H. Al-Alwan

F.R.C.S., Dean of Al-Mustansiriya College of Medicine

Abstract:

A case of a 45 years old woman presented with bilateral breast masses with axillary and cervical lymphadenopathy and generalized ill health. Investigations including surgical biopsy for breast and axillary masses revealed non Hodgkin's Lymphoma of the breast. This is a rare condition involving the breast and should be differentiated from carcinoma as the treatment is different.

Key words: Lymphoma, Breast, Extranodal, Non Hodgkin's Lymphoma.

Introduction:

Lymphoma result when DNA damage or changes occur to an immune cell (a lymphocyte) that alters the behavior of the cells. The damage to DNA result in abnormal production of proteins that prevents the cells from dying when they should, or causes sustained rapid cell division that produces more of its kind.

These malignant cells then may accumulate to form tumor that may enlarge the lymph nodes or spread to other areas of the system, such as the spleen or bone marrow. Lymphoma can also spread or first appear outside the lymphatic system and is called extranodal disease.

The underlying pathology (the type of cell, its stage of maturation, its genetic characteristics, etc.) further classify the extra nodal lymphoma. These properties may be more relevant to the likely behavior of the lymphoma and the best types of treatments.^{(1) (2)}

Non Hodgkin's lymphoma arise either in lymph nodes or in other lymphatic tissues, such as the tonsils, spleen, and thymus (nodal lymphoma), or in lymphatic cells in other organs (extra- nodal lymphoma). That is to say that the primary area of presentation of the lymphoma is not in the lymph nodes. Extranodal lymphoma can be categorized as primary or secondary with primary indicating that the lymphoma presented itself in an extranodal site. Examples of extranodal lymphomas are cutaneous, gastric, eye, breast and bone.^{(1) (2) (3)}

Primary lymphomas of the breast are rare, accounting for 1.7% to 2.2% of extranodal lymphomas and 0.38% to 0.7% of all non-Hodgkin lymphomas. Although secondary breast lymphomas are also rare, with a reported incidence of 0.07%, it comprises 17% of all malignancies metastatic to the breast and so they represent the largest group of metastatic tumors of the breast^{(3) (4) (5) (6)}

In this case study we report a case of non-Hodgkin lymphoma of the breast with review of literature.

Case report:

A 45 years old lady married and has 7 children. She presented with multiple breast masses of 3 weeks duration, she was admitted on the 2nd.Oct.2000 to Al-Yarmouk hospital. Her condition started 2 months before, as generalized malaise, weakness, easy fatigability, weight loss, and low

grade fever, with frequent attendance to many doctors, later the patient complained of multiple masses appeared firstly in the left breast then involved the other breast and both sides of the neck.

Systems review: bone and joint pain, no cardio respiratory symptoms, disturbed menses.

On examination: a thin tired looking pale patient, not dyspnoic, not jaundiced and not cyanosed. The neck shows multiple firm masses 3x2 cm matted together, fixed, tender, in both sides of the neck.

Chest examination revealed multiple masses 4 in number in the left breast measuring 2-3 cm. each discrete firm, mobile, not tender .The right breast has similar masses, but they are 3 in number. Normal vesicular breath sounds, no added sounds. The left axilla was involved by similar masses 3 in number; the right axilla has 2 masses, all are free and mobile.

Abdomen was soft, not tender mild hepatosplenomegaly .The patient was investigated. Complete blood picture, liver function test. Blood film, Blood urea and electrolytes Chest X Ray showed Left mediastinal opacity.

Ultrasound revealed liver & spleen are mildly enlarged. Bone marrow aspiration for cytology and biopsy was done .The patient was subjected to surgical biopsy from the left breast and left axilla. Three days later the patient had sudden increase in cervical swelling extending to the right cheek with attacks of dyspnoea and choking the patient was resuscitated and put on supportive treatment.

Hemoglobin: 10.2 g/dl. Hematocrite: 31.9, WBC; 11.65 lymph 13.0% Mon 1.9% Gran 79.2%. Platelets: 133000. Blood Film Neutrophil 88% Lymphocyte 6% Monocyte 4% Eosinophil 0% Basophil 0% Myelocyte 2%. Blast Cell: 2/100 WBC, Blood film Leukocyte show lymphopenia, Neutrophilia with moderate left shift. Platelets are reduced in number Red cells are normochromic with anisocytosis and few nucleated red cells. Leuko-erythroblastic picture.

Figure-1: Side & frontal views of patient with NHL & swelling of the neck



Histopathology: Grossly

1. Small piece of tissue measures 3x2 cm. with irregular outline all was taken
2. Single piece of tissue measures 3x3 cm with irregular outline with attached fatty element its cross section was showing white spaces inside.

Microscopically: Both examined biopsies were showing invasion by highly malignant cells arranged in cords & nests with plentiful mitosis. proliferative blood vessels with Reed -Sternberg like cells, picture was highly suggestive of invasive malignant tumor of non Hodgkin type (Lymphoepithelial variant).

Bone marrow biopsy Gross: Small tiny piece of tissue measures 0.5 cm, all taken.

Microscopically: Section examined shows increased activity of marrow element with involvement by cell with irregular shapes some multinucleated with plentiful macrophage, increase eosinophilic infiltration with plentiful lymphocyte, picture was highly suggestive of involvement by malignant tumor.

Histologically Non Hodgkin's lymphoma invasive type stage 4. A plan for chemotherapy was arranged, but unfortunately the patient died on 11th.Oct.2000 .just before the start of chemotherapy.

Discussion:

Lymphomas are divided clinically and histologically into Hodgkin's Lymphoma and non Hodgkin's Lymphoma .The majority are of B cell origin .Non Hodgkin's Lymphoma are divided into low grade and high grade tumor on basis of their proliferation rate.

The involvement of the breast in lymphoma in this patient is probably secondarily affected as the patient has in addition to involvement of both breasts, she has axillary lymph nodes, and cervical lymph nodes, and on the top of that she has bone marrow involvement. Though she has hepatosplenomegaly on ultra sound, one may not be sure whether it is genuine involvement by lymphoma or mere a coincidental condition , this case considered as secondary breast lymphoma because it does not fit the criteria for primary breast lymphoma proposed by Wiseman and Liao which state; when clinically the breast is the site of the first or major manifestation of disease and there is no documentation of lymphoma elsewhere, except for simultaneous ipsilateral axillary lymphadenopathies ⁽⁷⁾ in this case it is labeled as primary breast lymphoma. Mammographic findings in breast lymphoma are non specific Lymphoma may lack the irregular border of infiltrating carcinoma and more than half exhibit no calcification. ^{(8) (9) (10)}

The imaging pattern of non Hodgkin's Lymphoma has been found unrelated to its histopathological subtype. ⁽¹¹⁾ Mammography can be important in making it possible to exclude signs of breast cancer, such as microcalcification.

Although rare, lymphoma should be considered in the differential diagnosis of a breast mass. Fine needle aspiration can facilitate appropriate triage of patients for further management ⁽¹²⁾. In our case the patient has involvement of both breasts and each breast has multiple lesions. Bilateral breast involvement in lymphoma represents 15-20 % ⁽¹³⁾, and lymphoma of the breast is usually solitary; but patient with multiple lesion and diffuse infiltration have been described ⁽¹⁴⁻¹⁶⁾

The diagnosis of lymphoma of the breast can be confirmed by surgical biopsy. It is of vital importance to differentiate lymphoma from carcinoma as the treatment is totally different. Lymphoma of the breast does not necessitate mastectomy. Combination chemotherapy is the treatment of choice either alone or associated with radiotherapy.

Conclusions:

Though lymphoma of the breast is a rare condition, it should be remembered in the differential diagnosis of a breast mass, as the treatment differs from that of carcinoma.

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