

## Bilateral Secondary Non- Hodgkin's Lymphoma of the Breasts: A Rare Case Report

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### Abstract

**Introduction:** Non-Hodgkin's lymphoma of the breast is a rare malignancy. Lymphoma breast could mimic the clinical presentation of inflammatory breast carcinoma. Confirmatory diagnosis is usually performed by fine needle aspiration cytology(FNAC). Prognoses mainly depend on histological grade and stage of the disease. Chemo-radiation is the most actable treatment.

**Objective:** Rare occurrence and important differential diagnosis with carcinoma breast justify reporting our case.

**Method:** Report of a rare case.

**Results:** We report a case of bilateral secondary Non-Hodgkin's Lymphoma (NHL) of the breast in a 39 years old Malay female. She presented to us with the chief complaints of left breast lump and pain with general weakness for last two months. On examination she was cachexic, had bilateral breast lumps with inflammation of the left breast skin and multiple axillaries lymph nodes on both sides. True cut biopsy of the both breast lumps showed NHL, type B. Ultrasound of abdomen was suggestive of lymphomas of the kidneys with enlarged para aortic lymph nodes. X-ray chest reveled multiple right sided ribs fracture. Laboratory investigations showed anemia and markedly raised lactic dehydrogenase (LDH). During hospital stay she detoriated very fast and developed fever and respiratory failure. She was planned for palliative management due to her advanced disease. Relative took discharge on request from hospital on 8<sup>th</sup> day of her admission & she died at home on the same day of discharge from the hospital.

**Conclusions:** Although Non-Hodgkin's lymphoma of the breast is a rare malignancy but it is an important differential diagnosis of the carcinoma of the breast.

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**Keywords:-** Breast, Non-Hodgkin's lymphoma.

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## Introduction

Non-Hodgkin's lymphoma (NHL) involving the breast, either as primary or secondary is rare<sup>1-4</sup>. Primary breast lymphomas constitute 0.04% to 0.5% of all breast malignancies<sup>1</sup>. Secondary lymphoma of the breast is rarer with a reported incidence of 0.07% only and it is less well studied than primary lymphoma in the literature<sup>2</sup>. B-cell phenotype is the most prevalent histological variants<sup>4</sup>. Lymphoma breast usually presents as a painless mass but T-cell lymphoma could mimic the clinical presentation of inflammatory breast carcinoma or mastitis<sup>3</sup>. Majority of the cases are unilateral however, bilateral involvement are most commonly seen in case of secondary involvement and in Burkett's lymphoma<sup>5</sup>. We are reporting this case in view of its rare occurrence in clinical practice.

## Case Report

A 39 years para 4 pre menopausal Malay woman was referred to surgical department with the chief complaints of painful left breast lump, general weakness, cough and chest pain off and on for two months. She does not have any contributory family or past history.

On physical examination- patient was cachectic and anaemic. Her blood pressure was 105/60 mmHg, pulse rate 90/min and temperature were 37.9 degree centigrade. Chest examinations were normal except basal crepitations in both the lungs. Per abdomen examination was normal. Local examination of the left breasts revealed huge 10x12 cm mass with skin inflammation of the whole breast. Right breast also had a 3x2 cm mass in the upper outer quadrant. Palpable lymph nodes of various sizes were present in both the axilla of various sizes. There were no supra-clavicular, neck or inguinal lymphadenopathy.

Investigations- Blood biochemistry showed haemoglobin 9gm%, total white cell count 10010/dl, platelets 331000/dl, urea 15.8mmol/L, lactic dehydrogenase (LDH) 1854U/L, Serum Alkaline Phosphatase (SAP) 173U/L. Chest X-Ray showed right sided clavicle and 3rd, 6 & 7<sup>th</sup> rib fracture. Lung fields were clear. Ultrasound of abdomen documented bilateral enlarged echogenic kidneys suggestive of lymphomas without hydronephrosis; cholelithiasis and paraortic lymphadenopathy. Liver, spleen and pancreas were normal.

Patient was provisionally diagnosed as metastatic carcinoma of the breasts. True cut biopsy of the both breasts lumps confirmed the diagnosis as Non-Hodgkin's lymphoma breasts of B-cell type, supported by raised LDH levels. Looking at the constitutional physical signs-symptoms, chest X-Ray findings and ultrasound abdomen findings, final diagnosis was established as a case of bilateral secondary NHL of the breasts.

Management - Patient was managed in the ward with supportive treatment; however she started to deteriorate and developed high fever not responding to antibiotics therapy. Subsequently she developed respiratory failure. Looking at the advanced disease status and poor general condition, patient was planned for palliative treatment. While waiting for CT scan on 8<sup>th</sup> day of hospital admission relative wanted to take discharge on request for starting traditional treatment. Patient died at home on the same day of discharge from the hospital.

## Discussion

Malignant lymphoma (ML) originates from lymphoid tissue and extra nodal involvement seen mainly in the Waldeyer's ring & gastrointestinal tract. NHL of the breast is a rare disease<sup>1-4</sup>. A preponderance of right breast lesion has been reported<sup>5</sup>. Bilateral involvement generally indicates secondary involvement. Diffuse large cell lymphoma of B-cell type is the commonest histological subtype in both primary and secondary cases<sup>4</sup>. The diagnosis of primary malignant lymphoma of the breast must satisfy few criteria's like (i) adequate pathological evaluation (ii) both mammary tissue and infiltrates must be in close association and (iii) exclusion of either systemic lymphoma or previous extra mammary lymphoma is mandatory<sup>6</sup>. We have diagnosed our case as a case of bilateral secondary NHL of the breasts depending on breast biopsy, other reported investigation results and the presence of constitutional clinical symptoms.

In case of lymphoma breast mamogram shows only a homogeneous tumour shadow without either micro calcification or speculation. It is not so reliable for diagnosing breast lymphoma<sup>7</sup>.

Ultrasound breast reveals a coarse internal echo, a hypoechoic mass with an irregular border and occasionally a lobulated mass<sup>6</sup>. Now a days positron emission tomographic/computed tomographic (PET/CT) images and MRI are preferred imaging<sup>8</sup>.

It is difficult to distinguish lymphoma breast from carcinoma breast without biopsy confirmation. FNAC is the usually performed biopsy with a reported sensitivity ranging from 83% to 100%<sup>2</sup>.

Therapeutic management of the lymphoma breast is controversial. Lymphoma breast is commonly associated with multi organ involvement. Treatment options include mainly combination chemotherapy with or without radiotherapy / radiotherapy alone<sup>9</sup>. In limited disease surgical resection also has been tried<sup>10</sup>. It is reported that in patients having localized tumour within the breast, wide local excision (WLE) alone is enough, but relapses were reported 10 years after WLE. However, addition of chemotherapy with surgery proved to be more beneficial<sup>6</sup>. High dose chemotherapy supported by peripheral blood stem cell transfusion is considered as a good option. Prognosis mainly depends on the histological grade and stage of the disease<sup>10</sup> and survival of secondary breast lymphoma is in general also poor in most of the cases due to their advanced stage presentation<sup>(3)</sup> just like our case as well.

Increased risk of second malignancies in lymphoma survivors after chemo-radiation, in particular breast cancer has been a major concern among women irradiated for lymphoma at a young age<sup>9</sup>. Several studies have shown that the relative risk for secondary breast cancer become significantly higher between 5 and 9 years of post treatment, showing maximum risk of involvement between 15 and 19 years. Looking at the high risk for developing breast cancer of these patients it is advisable to start screening programs early to detect breast cancer. Such screening includes breast self examinations (BSE) every month, clinical breast examinations by physicians every 6 months and mammography every 2-3 years. It is recommended to do biopsy for all suspicious lesions in these patients<sup>9</sup>.

## Conclusion

Lymphoma breast is a very rare disease and can be easily missed as carcinoma breast at the first sight. All these patients should be kept in close follow-up after lymphoma treatment for high incidence of secondary breast carcinoma.

**Conflict of Interest:** None.

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