CASE REPORT

Primary Non-Hodgkin’s Lymphoma of the bilateral Breast and review the literature

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Abstract
Primary bilateral breast Non-Hodgkin’s lymphomas are the rare tumors found during the pregnancy and postpartum period. Diffuse large B-cell lymphoma (DLBCL) is the most common histological diagnosis. Lymphomas in breasts grow faster in pregnant or postpartum women especially, in those who are infected with Human Immunodeficiency Virus (HIV). Confirmation of diagnosis is usually delayed because of breasts’ extraordinary engorgement, hormonal changes during the pregnancy or lactation and most of the patients are diagnosed in advanced stages. Rapidly growing breast mass in HIV patients during the antenatal and postpartum period should undergo prompt investigations and early treatment if proven lymphoma.

Keywords: Breast cancer, Lymphoma, Bilateral

1 | INTRODUCTION

Non-Hodgkin’s lymphoma (NHL) is a common AIDS-defining malignancy, however it remains a rare extranodal malignant tumor of the breast and its prevalence is poorly not univocally described (1). Primary breast lymphoma (PBL) is an uncommon disease occurring in 0.4-0.5% of all breast malignancies. Diffuse large B-cell lymphoma (DLBCL) is the most common histological diagnosis (2). Bilateral breast lymphoma is a very rare tumor during the pregnancy and postpartum period, but highly invasive and associated with a poor prognosis, if left untreated. Early diagnosis is crucial for outcome (3). This case who presented to us, is the first bilateral breast lymphoma we found in our Breast Oncology Clinic in the Mankweng hospital. The main objective of present report is to share our experience with the rare case of bilateral breast lymphoma in postpartum HIV patient.

2 | CASE PRESENTATION

Eight-month post-partum, thirty-year-old female patient who was HIV positive with an absolute CD4 count 824 cells/uL on antiretroviral medication, pre-
presented to the General Outpatient Department with a history of bilateral breast swelling, pain and skin discoloration associated with night sweats and fever for a period of one month. On physical examinations during the first visit to the Breast Oncology Clinic revealed remarkably enlarged breasts as shown in Figure 1, Figure 2, Figure 3 and palpable enlarged lymph nodes in both axillae. All other systems on a physical examination were normal. Investigations: ultrasonography showed bilateral breast dense masses, left and right axillary lymphadenopathy; BI-RADS 3. Abdominal ultrasonography was grossly normal. The report of core biopsy read: “histology and immunohistochemistry observed malignant cellular infiltrate with cells that have a diffuse sheet-like pattern of growth and mitotic activity noted a high-grade non-Hodgkin B-cell lymphoma compatible with a diffuse large B-cell lymphoma, germinal center subtype”. The bone marrow aspiration was done and no abnormality in the specimen noticed. Patient was booked to the Medical Oncology Clinic for a consultation and treatment. Regrettably, in this time patient’s condition was quickly deteriorating with a bleeding from ulcerative lesions of the breast masses and also with difficulties of breathing. Patient was admitted urgently to hospital and died soon before commencing of chemotherapy. It was about one month since the first visit in oncology breast clinic.

3 DISCUSSION

People living with HIV in 25-40% will develop a malignancy, with about 10% NHL (4). NHL are malignancies originated in lymphoid tissue, but etiology of NHL is poorly understood today; however, the most significant risk factor for development of all NHL is immunodeficiency state (5). B cell lymphomas can arise at any stage of normal B cell development; however, most of them are derived from cells that have been exposed to the reaction of germinal centres. DLBCL is an AIDS-defining malignancy and the most common histologic subtype of non-Hodgkin lymphoma (2), (6). HIV infection results in impaired cellular immunity, which predisposes to development of cancers (4). As
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FIGURE 3: 

the lifespan of HIV-infected patients has lengthened, malignancies increasingly contribute to morbidity and mortality in this population (7). Since the routine implementation of antiretroviral therapy, cancer is diagnosed in more than 40% of HIV-infected patients and more than 28% of HIV-related deaths are attributable to malignancy (8). AIDS-related NHL can be divided into three general categories based on location: systemic NHL, primary central nervous system lymphoma and primary effusion (or body cavity) lymphoma (9). Systemic NHL accounts for the great majority of AIDS-related lymphomas. Systemic NHL can be further divided into common subtypes described in the World Health Organization classification system. The most common systemic NHL subtypes seen in HIV-positive persons are Burkitt lymphomas, approximately 25%, DLBCL approximately 75% [(9),(10)].

Bone marrow (BM) is the most common site of extranodal involvement of lymphoid malignancies and the frequency of BM involvement varies 20-100% according to the lymphoma subtype (11). There are also situations where BM is the only accessible site to make the diagnosis of NHL. Bone marrow involvement with NHL is usually focal, but on rare occasions, patients may have extensive NHL confined to the bone marrow, presenting clinically with pancytopenia and systemic symptoms (12). Prognosis of PBL is fair, but poor in pregnant or postpartum women with bilateral breast lumps (3), (13). Cytotoxic chemotherapy remains the primary means by which these lesions are treated. Radiation therapy can also be used in an adjuvant setting. Many patients can avoid mastectomy if systemic chemotherapy is used as the initial form of treatment. Survival in patients treated with cytotoxic chemotherapy has improved over the last several years (6). DLBCL is curable in approximately half of cases with current therapy, particularly in those who achieve a complete remission with a first-line treatment. Factors that contribute to outcome include age, socioeconomic conditions, comorbid conditions, performance status, and various clinical features (14). The International Prognostic Index and its variants are the main prognostic tools used in patients with DLBCL. These indices are significantly more accurate than standard staging criteria in predicting long-term survival (15). Confirmation of diagnosis in patients with bilateral breast lymphoma in pregnant or postpartum patients is frequently delayed because of breasts’ extraordinary engorgement, hormonal changes during the pregnancy or lactation. Most of those patients also are diagnosed usually in advanced stages (3). The case presented to us, condition was worsening rapidly within a month from first arrival at Breast Oncology Clinic. The patient died soon after admission to the hospital. It is important, that any pregnant or lactating woman with an abnormal bilateral breast enlargement should undergo speedy diagnostic investigations and in case of NHL, the treatment should be implemented as soon as possible.

4 CONCLUSION

Primary Non-Hodgkin’s Lymphoma of bilateral breasts is uncommon. It grows rapidly during the antenatal and postpartum period especially in the HIV population. Urgent attention is required for
prompt investigations of breast lumps in pregnant or postpartum HIV patients, which must be followed with immediate treatment if proven NHL.

5 | INFORMED CONSENT

Informed consent was unable to take because patient condition was deteriorating and later confused before patient died. But anonymity was maintained, identity of patient or hospital file number is not reflected anywhere. Permission is obtained for publication from Pietersburg Mankweng Research Ethic committee, reference number is PMREC 02 October UL 2019/B.

Conflict of interests
None declared

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