Letter to Editor

Metastatic Hodgkin's lymphoma: An extremely rare cause of breast lump

Breast lymphoma is a rare condition, and both as a primary and a metastatic manifestation. The primary form has an incidence ranging from 0.04% to 0.5% of all breast neoplasms, whereas the metastatic form has an incidence of 0.07%.[1-5] The majority are non-Hodgkin's lymphoma (HL), most commonly the diffuse large B cell subtype.[6-8] HL of the breast is a very rare entity both as primary and secondary.[9]

HL primarily presents as nodal disease and may involve extranodal sites during the progression of the disease. HL most often spreads through the lymph vessels from lymph node to lymph node (in contrast to non-HLs, which are typically hematogenously disseminated to other lymph nodes). Rarely, late in the disease, HL can invade the bloodstream and spread to other parts of the body, such as the liver, lungs, and/or bone marrow. Extranodal involvement of the lung, gastrointestinal tract, testis, and thyroid is well-recognized in non-HL, but clinically detectable soft-tissue involvement is rare and quite exceptional with HL.[10] We, herein, present an exceptionally rare case in which metastasis to the breast developed while the patient was receiving chemotherapy for HL diagnosed in the cervical lymph node.

A 32-year-old female presented with bilateral cervical lymphadenopathy and biopsy and immunohistochemistry (IHC) of the lymph nodes were suggestive of classical HL. The patient was started on chemotherapy (adriamycin, vinblastine, bleomycin, and dacarbazine) and received 6 cycles.

During chemotherapy, the patient noticed a lump in the left breast. Soon after the completion of 6 cycles, positron emission tomography scan done also revealed a new lesion in the left breast and left axilla. USG-guided left breast lump biopsy was done. Microscopic examination of the same revealed numerous mononucleate and classic RS cells in a background of lymphocytes, plasma cells, eosinophils, and neutrophils. RS cells were showing chemotherapy-related changes in the form of cytoplasmic vacuolation, irregular hyperchromatic nuclei with smudged nuclear chromatin. Focal areas of necrosis were also seen [Figure 1] IHC revealed the RS cells are positive for CD30 [Figure 2] and CD15.

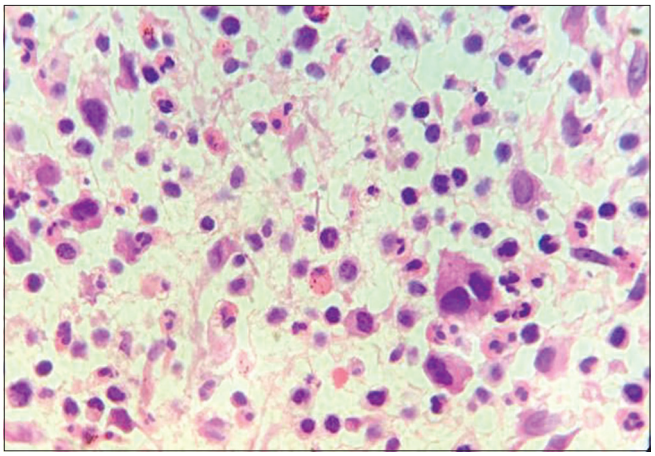

Figure 1: Mononucleate and classic RS cells in a background of lymphocytes, plasma cells, eosinophils, and neutrophils (H and E, ×40)

Extranodal spread can occur in HL through localized extension, especially when the original lymph node involvement is bulky, either by direct invasion or through local lymphatic channels, and may involve any nearby structure such as thyroid, pleura, pericardium, perihilar lungs, subcutaneous tissue, skin, epidural tissue, and other similar sites of the involved lymph node.[11] However, distant extranodal spread in HL occurs exclusively in the liver, bone marrow, lung, or bone. This is always preceded by splenic involvement and may be occult or vivid.

Mammary infiltration is often the result of direct extension from axillary or mediastinal lymph nodes,[12,13] part of regional disease with discontinuous axillary node involvement,[14,15] or a manifestation of systemic disease.[4] Mukherjee *et al.*[9] have reported a similar case of breast metastasis from HL of the cervical lymph node. But it occurred 4 years after receiving chemotherapy.

HL is responsive to both chemotherapy and radiation. It is a disease with a good prognosis up to 80% of cases can be cured with current treatment options. However, our patient did not respond to standard treatment (ABVD) and developed metastasis to the breast during chemotherapy.

In addition, diagnosis of the present case with such an unusual extranodal involvement during chemotherapy

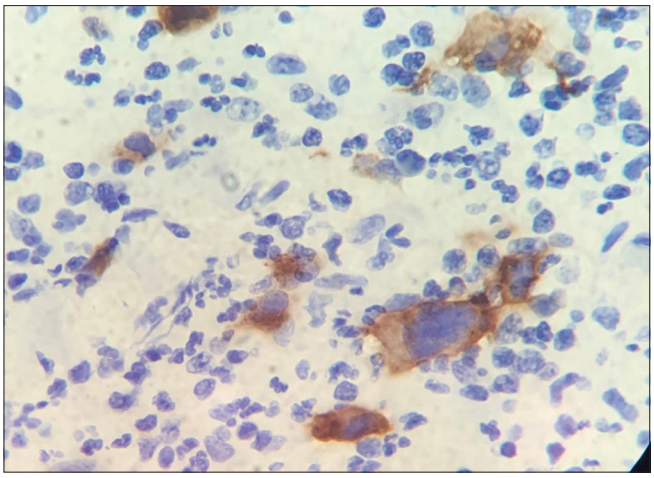

Figure 2: CD 30 positivity in RS cells (IHC, ×40)

has to be distinguished from anaplastic large cell lymphoma (ALCL) and diffuse large B-cell lymphoma DLBCL. The breast mass demonstrated typical binucleated RS cells with CD30 positivity to rule out DLBCL. Differential diagnosis between HL and ALCL was made by ALK expression, and co-expression of CD30 and PAX5 with ALK-negative is very helpful in differentiating this case from ALCL.

In conclusion, this case highlights the atypical presentation of HL presenting with breast metastasis during chemotherapy. The disease seems to have aggressive feature and worse prognosis. Due to nonresponding nature with standard treatment, such tumor should be treated as distinct clinical entity. Some other combination regimens may be tried to combat this dreadful disease after enrollment of the patient in a clinical trial.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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Submitted: 29-Sep-2020 **Accepted:** 03-Feb-2021
Published: 18-Jun-2021

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Access this article online	
Quick Response Code:	Website: www.ijcpc.org
	DOI: 10.4103/ijcpc.ijcpc_18_20

How to cite this article: Mardi K. Metastatic Hodgkin's lymphoma: An extremely rare cause of breast lump. Int J Clinicopathol Correl 2021;5:28-9.