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CASE REPORT

Primary non-Hodgkin's Lymphoma of Breast- A Rare Entity

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Abstract

Malignant lymphoma is a neoplastic entity which originates in lymphatic tissue. Primary breast lymphoma of breast is a rare and distinct possibility in the diagnosis of breast malignancies. We, here, report a case of primary breast lymphoma in a 45 years old female. The presumptive diagnosis was made on fine needle aspiration cytology which was later on confirmed on histology after lumpectomy. The histology and immunohistochemistry were in accordance with non -Hodgkin's lymphoma. Since the prognosis, management and outcome of primary breast lymphoma is totally different from that of carcinoma so, the clinicians treating breast carcinoma cases should be aware of this rare entity.

Key Words

Fine Needle Aspiration Cytology (FNAC), Malignancy, Primary Breast Lymphoma

Introduction

Primary lymphoma of breast is an uncommon neoplastic condition which accounts for 0.4-0.5% of all breast neoplasms and for 1.6- 2.2% of extra-nodal NHL. B cell non- Hodgkin lymphoma is the most common type of breast lymphoma. [1] Breast lymphomas have been classified into primary and secondary breast lymphomas. The primary breast lymphoma (PBL) is defined as a malignancy which is primarily occurring in breast in the absence of previously diagnosed lymphoma. [2]

These can be localised to one or both breasts, with or without regional involvement.

It has been seen that low and intermediate grade lymphomas have nodular pattern of involvement where as high grade lymphomas present as diffuse breast enlargement.[3]

Case Report

A 45 years old female, previously healthy, presented to our outpatient department with a lump in left breast with no constitutional symptoms. She had noticed the lump 6 months before, which had been rapidly increasing in size since then. There was no complaint of pain or nipple discharge, no retraction and no skin changes. On local examination, there was a firm to hard lump of about 2.5*2cm in the upper outer quadrant of breast. The swelling was fixed to the overlying skin. Rest of the systemic examination was completely normal. On mammography, there was a round radio-opaque lesion with irregular margins in the upper quadrant of breast. Fine needle aspiration smears from the breast lump showed monotonous population of atypical lymphoid cells along with few clusters of ductal epithelial cells,

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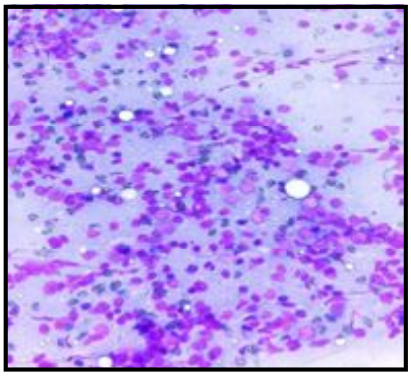
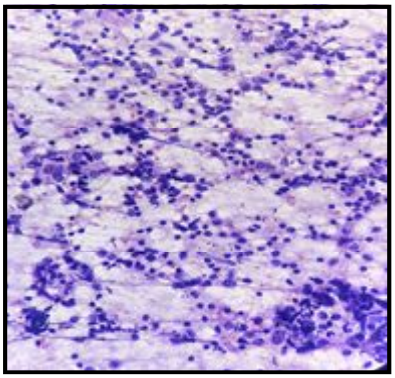
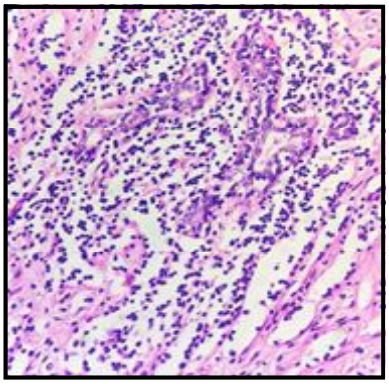

Fig. 1 & 2 FNA smears showing monomorphic, dispersed population of large lymphoid with enlarged rounded nuclei and fine chromatin with scanty cytoplasm (May Grunwald Giemsa & Papanicolaou stain, 400x). Fig. 3 H&E stained section showing periductal infiltration by neoplastic lymphoid cells, which are also present in diffuse sheets. (Hematoxylin & Eosin stain, 400x).

lymphoglandular bodies and red blood cells in the background which were suggestive of a lymphoproliferative disorder. On performing excision biopsy of the lump, all the hematoxylin and eosin stained slides revealed a hypercellular picture, and large atypical lymphocytes were arranged in a monotonous sheet like pattern. The neoplastic cells showed altered nuclear/ cytoplasmic ratios. Breast tissue was densely infiltrated by sheets of lymphoid cells and mitotic figures were often observed. Periductal infiltration by these atypical lymphoid cells was also seen. The histopathological examination of the tumor confirmed the diagnosis of primary non-Hodgkin lymphoma of breast of B-cell type.

On immunohistochemistry, the lesional cells were found to be immunoreactive for CD 45 (Leucocyte Common Antigen) with a score of 4+ and non-immunoreactive for cytokeratin, ER, PR and Her 2 neu receptors.

Discussion

Primary breast lymphomas, though rare, should be considered in the differential diagnosis of breast malignancies. The incidence of PBL is increasing due to the emergence of newer diagnostic modalities which substantiates the importance of clinical information and awareness of this rare disease. PBL accounts for < 1% of all NHLs and 1.6-2.2% of all extranodal NHLs. [4] These cannot be differentiated from breast carcinomas clinically.

However, there are certain patterns of involvement which suggest a diagnosis of PBL of the breast. The lymphomas are usually larger at the time of diagnosis and features like skin retraction, "peau d'orange", nipple discharge are less likely to be present. On mammography, the typical features which suggest a diagnosis of PBL are a solitary round mass with a regular and smooth outline surrounded by a thin perimeter of radiolucency along with the absence of microcalcifications and spiculations. [5] It is predominantly reported in female patients and is very rare in males. [6] It is usually unilateral, but bilateral presentation may occur in 5-15% cases. Primary breast lymphomas are most commonly B- cell lymphomas, amongst them, diffuse large B- cell lymphomas (DLBCL) accounts for (50%) maximum number of cases, followed by follicular lymphoma (15%), MALT lymphoma (12.2%) and Burkitt's lymphoma (10.3%).

The diagnostic criteria for PBL includes: 1. The clinical site of presentation is the breast. 2. Absence of history of previous primary lymphoma or evidence of widespread disease at the time of diagnosis. 3. Adequate pathological evaluation, that is, lymphoma is demonstrated in close association with the breast tissue in the pathology specimen.4. Ipsilateral lymph node involvement, if they develop simultaneously with the primary breast lymphoma. [7] The treatment of primary breast lymphoma follows treatment recommendations for lymphomas of the same stage and histology as in other locations.[8]

Conclusion

Primary breast lymphoma is an extremely rare entity. Clinico-radiologically breast lymphomas cannot be differentiated from breast carcinomas. It is important to distinguish these from breast carcinomas as their treatments and outcome differ radically.

So, the clinicians treating breast carcinoma cases should be aware of this rare entity so as to distinguish its clinical presentation, management and prognosis from breast carcinoma cases. Fine needle aspiration cytology, being reliable and cost-effective tool can provide a high

degree of clinical suspicion so as to avoid unnecessary mastectomies. The cases diagnosed as PBL on fine needle aspiration cytology smears should always be confirmed by histopathology and immunohistochemistry.

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Conflicts of Interest
There are no conflicts of interest.

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