Radiology Case Reports 14 (2019) 22–27

Available online at www.sciencedirect.com

ScienceDirect

journal homepage: www.elsevier.com/locate/radcr

Case Report

Primary diffuse large B-cell non-Hodgkin's lymphoma of the breast—A case report and review of the literature

Ola A. Harb[a,*], *Safa A. Balata*[b], *Hassan Ashour*[c], *Eman Eltokhy*[c], *Loay M. Gertallah*[c], *Rham Z. Ahmed*[d], *Ali M. Hassanin*[e]

[a] *Department of Pathology, Faculty of Medicine, Zagazig University, Egypt*
[b] *Department of Clinical Oncology and nuclear medicine, Faculty of Medicine, Zagazig University, Egypt*
[c] *Department of General surgery, Faculty of Medicine, Zagazig University, Egypt*
[d] *Department of Medical Oncology, Faculty of Medicine, Zagazig University, Egypt*
[e] *Department of Radiology, Faculty of Medicine, Zagazig University, Egypt*

ARTICLE INFO

Article history:
Received 4 July 2018
Revised 3 September 2018
Accepted 3 September 2018

Keywords:
Primary large B-cell lymphoma
Breast
Immunohistochemistry

ABSTRACT

Primary breast lymphoma (PBL) is considered a rare clinical entity forming about 0.4%-0.5% of all breast tumors.

In this report we have presented a case of PBL in a 56-year-old female complaining of a mass in the upper medial quadrant of the breast.

PBL suspicion of our case was made by breast radiology and the sure diagnosis was reached by the immunohistochemistry results; CD (cluster of differentiation) 20: was diffusely positive; Pan-CK (pan-cytokeratin): was diffusely negative in tumor cells. Hence, the case was finally diagnosed as a primary breast a primary breast diffuse large B-cell non-Hodgkin's lymphoma of lymphoma.

The management and outcome of PBL and carcinoma are totally different. Accurate diagnosis of PBL by true cut needle biopsy and immunocytochemistry is important to avoid unnecessary mastectomies.

Introduction

Primary non-Hodgkin's lymphoma of the breast is very rare, accounting for about 0.1%-0.5% of all malignant breast tumors, and forming about 1.7%-2.2% of extra nodal NHL [1,2].

In most reported case reports and case series, primary breast lymphoma (PBL) usually presented as a palpable mass which is rarely detected during clinical and radiological screening, which mimic benign masses. Diagnosis can be confirmed by a true cut needle biopsy followed by immunohistochemistry. By contrast to primary breast carcinoma; performing mastectomy is not the primary line of management of PBL.

* Corresponding author.
E-mail addresses: olaharb2015@gmail.com (O.A. Harb), coyhut@gmail.com (S.A. Balata), Dremantokhy@gmail.com (E. Eltokhy), Loayelhady@gmail.com (L.M. Gertallah), rhamzaki1975@gmail.com (R.Z. Ahmed), Dr_alih2000@hotmail.com (A.M. Hassanin).
https://doi.org/10.1016/j.radcr.2018.09.004

Treatment is mainly by combination of chemotherapy and radiotherapy. So, accurate diagnosis of PBL by true cut needle biopsy and immunocytochemistry is important to avoid unnecessary mastectomies.

There are many subtypes of PBL, but the most common subtype is the B-cell non-Hodgkin's lymphoma.

At presentation, most patients are suspected to have breast carcinoma, then the primary diagnosis of a PBL is made by histopathological examination of the true cut needle biopsy from the mass and reaching the final accurate diagnosis and subtyping are reached by immunocytochemistry [1].

In this report we have presented a rare case of primary breast a primary breast diffuse large B-cell non-Hodgkin's lymphoma of lymphoma and a review of literature of PBL.

Case report

Our case is a 56-year-old female who was presented to General Surgery Department, Faculty of Medicine, Zagazig University with a right breast lump since 7 months and having no constitutional symptoms. Patient was not complaining of pain or nipple discharge.

On local physical examination, we have detected a firm to hard lump of about $5 \times 4 \times 3$ cm in upper inner quadrant of right breast which was not fixed to the overlying skin. There was no history of trauma to the affected breast. Systemic physical patient's examination revealed no abnormality.

Ultrasonography breast imaging showed a solid mass measuring about $5 \times 4 \times 3$ cm with wall calcification at 2-o'clock position in right breast.

On mammography, there was an oval radio-opaque lesion with irregular margins in upper inner quadrant of right breast with free retro-areolar space (Fig. 1 A and B).

Fine needle aspiration cytology was done in Pathology Department, Faculty of Medicine, Zagazig University that was positive for malignant cells.

Sonar guided true cut needle biopsy was needed for accurate diagnosis.

Microscopic examination of sections prepared from the true cut biopsy revealed; infiltration of the fibro fatty stroma of the breast by cords, sheets of large pleomorphic discohesive malignant cells with hyperchromatic nuclei, and scanty cytoplasm.

Areas of hemorrhage and necrosis were found between the masses (Fig. 2 A–D).

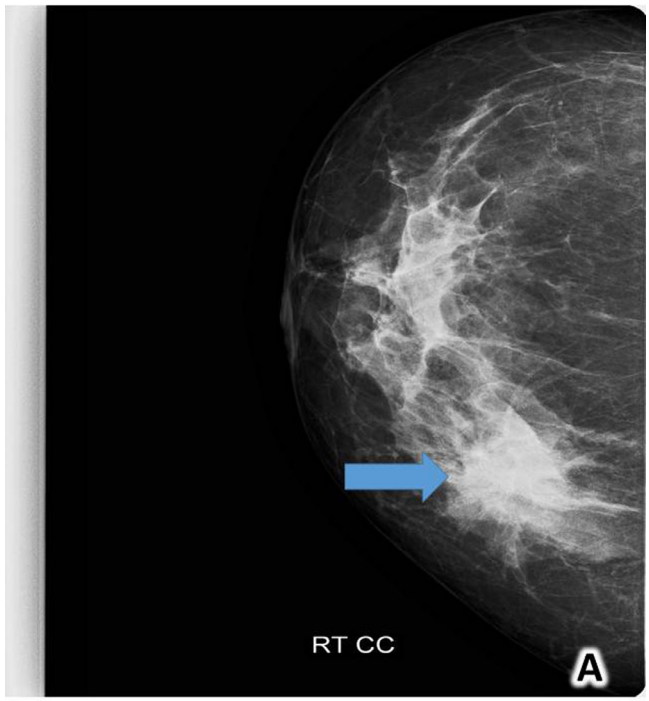
Diagnosis of non-Hodgkin lymphoma versus invasive lobular carcinoma:

Immunohistochemistry with CD45, CD20, CD3, CD5, CD30, and Pan-Keratin were highly recommended to confirm the diagnosis.

Immunohistocytochemistry results (Fig. 3 A–G).

Pan-Keratin: was negative in tumor cells, CD 45: was diffusely positive in all tumor cells, CD 20: was diffusely positive, CD 5: was focally positive; CD3: was negative; CD15: was negative; CD30: was negative.

Hence, the case was finally diagnosed as a primary breast diffuse large B-cell non-Hodgkin's lymphoma of lymphoma.



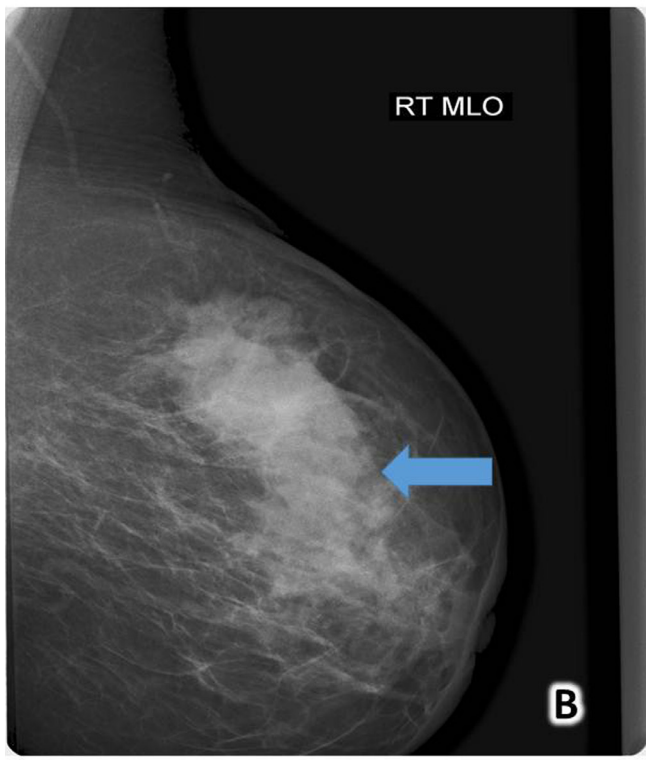


Fig. 1 – Mammography of the case revealed that there was an oval radio-opaque lesion with irregular margins in upper inner quadrant of right breast with free retro-areolar space No skin thickening or nipple retraction. (A) Cranio-caudal position (CC); (B) Mediolateral oblique position (MLO).