European Journal of Therapeutics
pISSN: 2564-7784
eISSN: 2564-7040

Eur J Ther. 2024;30(4):545-547.
https://doi.org/10.58600/eurjther2179

Letter to Editor

A Rare Cause of Unilateral Breast Mass: Burkitt Lymphoma

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Received: 2024-05-06 **Accepted**: 2024-06-09 **Published Online**: 2024-06-11

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Dear Editor,

A 45-year-old patient with no known medical history presented with swelling in the left breast that started 1 month ago. On physical examination, global volume increase, redness and edema were observed in the left breast. The patient's blood tests were normal. Breast ultrasonography showed signs of increased echogenicity and edema with unclear borders without forming a mass in the left breast. Subsequently, contrast-enhanced breast magnetic resonance imaging (MRI) was performed. During the breast MRI scan, a large lesion was discovered in the left breast. In T2 sequences, the mass lesion most completely filled the outside half of the breast and had same intensity as the breast parenchyma. It showed a heterogeneous contrast enhancement pattern with some centrally placed non-enhancing areas and demonstrated severe diffusion restriction in diffusion-weighted imaging (Fig. 1).

Tru-cut biopsy was performed under ultrasonography guidance. In the tru-cut biopsy material, medium-sized tumor cells with narrow cytoplasm that eliminated the normal breast parenchyma in most areas and formed diffuse infiltration were observed. In immunohistochemical examination, CD20 was diffusely positive, CD10 positive, c-myc positive, bcl-6 focal positive, MUM-1 focal positive, and Ki-67 proliferation index was determined as 100%. In the light of morphological and immunohistochemical data, a diagnosis of Burkitt lymphoma was made (Fig. 2).

Primary breast lymphoma accounts for 0.5% of all breast malignant neoplasms. The majority of breast lymphomas are of the non-Hodgkin's B-cell type, with the most common subtype being diffuse large B-cell lymphoma [1]. Roughly 1% to 5% of all non-Hodgkin lymphomas are Burkitt lymphomas [2]. BL is divided into three clinical groups by the World Health Organization (WHO): endemic, sporadic, and immunodeficiency-related. Their morphology and immunological phenotypic features are similar, despite differences in their clinical presentation and geographic distribution. They are all associated with c-Myc gene translocation and deregulation, which most commonly results from t (8;14), though variant translocations like t (8;22) and t (2;8) have been reported [3]. Although the head and neck can also be impacted, the abdomen is usually the main location of sporadic BL [4]. Primary breast lymphoma Burkitt

type is extremely rare. Of the very rare primary breast Burkitt lymphomas reported in the literature, more than half are bilateral and associated to pregnancy and lactation [5].

Even it is rare it should be remembered that unilateral global rapid breast enlargement with large dimensions, marked diffusion restriction and intense contrast enhancement on breast MRI, as in the case we present, may be caused by lymphoma, especially Burkitt lymphoma.

Yours sincerely.

Conflict of interest: The authors declare that they have no conflict of interest.

Funding: No funding was received for this study.

Informed Consent: Informed consent was obtained from the subject described in this report .

Ethical Approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/ornational research committee and with the 1964 Helsinki declaration and its lateramendments or comparable ethical standards.

Author Contributions: Conception: O,C- Design: O,C - Supervision: K,S -Materials: O,C; G,HE; K,S - Data Collection and/or Processing O,C; G,HE; K,S - Analysis and/or Interpretation: O,C; G,HE- Literature: O,C - Review: G,HE - Writing: O,C - Critical Review: G,HE; K,S

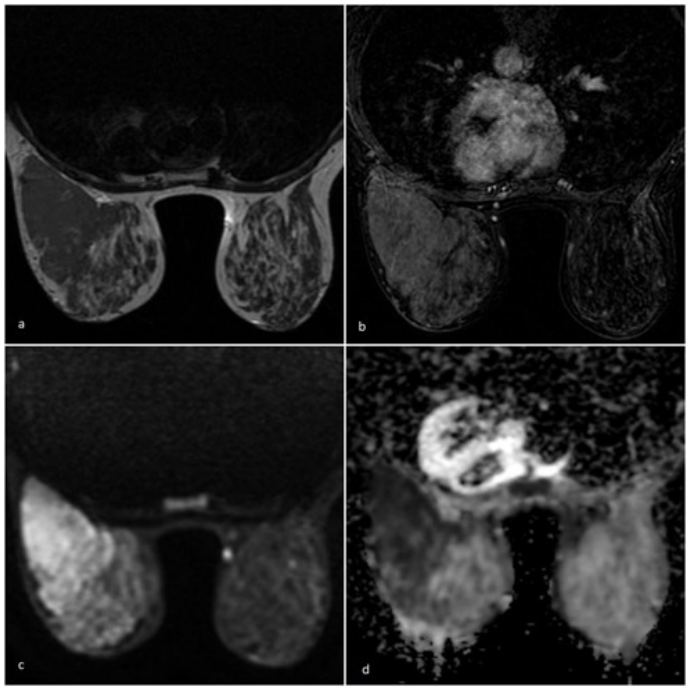

Figure 1 a. Hypointense lesion on T2 images, **b.** Enhanced lesion on postcontrast subtracted images, **c and d.** Diffusion-restricting lesion that is hyperintense on diffusion-weighted images and hypointense on ADC mapping

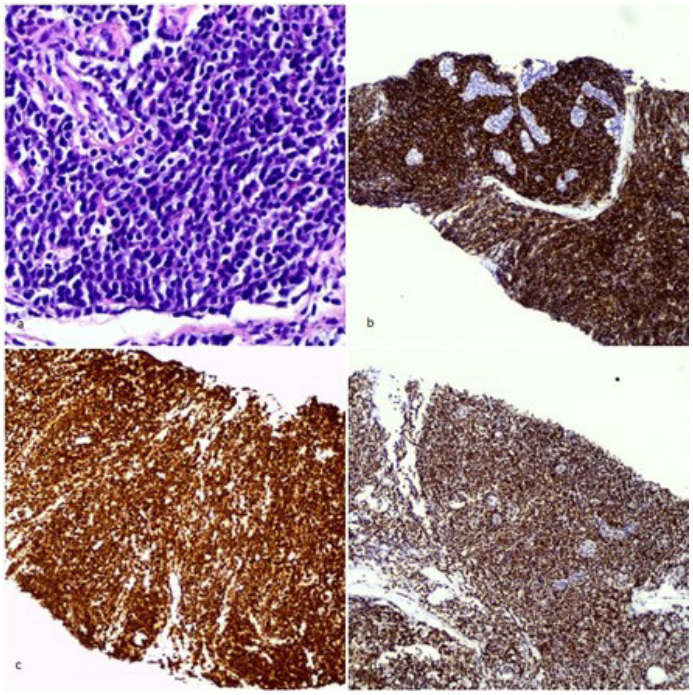

Figure 2 a. Diffuse invasion of tumor cells that leave a few normal mammary gland components intact, **b.** CD20 positive tumor cells, **c.** The Ki-67 proliferation index is nearly 100% in tumor cells, **d.** C-myc positivity in tumor cells

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How to Cite;

Ozenbas C, Guzel HE, Karaarslan S (2024) A Rare Cause of Unilateral Breast Mass: Burkitt Lymphoma. Eur J Ther. 30(4):545-547. https://doi.org/10.58600/eurjther2179