

Primary, nodal, marginal zone lymphoma of a woman's left breast imitated fibroadenoma: A case report

Strahil Strashilov¹, Angel Yordanov², Vasil Nanev³, and Miroslava Mihailova⁴

1. Department of Plastic Restorative, Reconstructive and Aesthetic Surgery, Medical University Pleven, Bulgaria
2. Clinic of Gynecologic Oncology, Medical University Pleven, Bulgaria
3. Department of Surgical Oncology, Medical University Pleven, Bulgaria
4. Department of Gastroenterology and Hepatology, Medical University Pleven, Bulgaria

CASE STUDY

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Corresponding Author:

Angel Danchev Yordanov

Clinic of Gynecologic Oncology, University Hospital "Dr. Georgi Stranski"-Pleven, Medical University Pleven, Georgi Kochev 8A, Bulgaria

Email: angel.jordanov@gmail.com

ABSTRACT

Background

Primary breast lymphoma is a rare malignant neoplastic disease, accounting for around 0.5 per cent of all malignant diseases of that organ, and also 2.2 per cent of extranodal lymphomas. The most common histopathological types are: diffuse large B-cell lymphoma, extranodal B-cell marginal zone lymphoma and MALT lymphoma. The primary affected group is with median age between 55 and 62 years. The clinical manifestation is usually of a tumour process in the affected breast.

Case presentation

Here we present an extremely rare case of a 68 years old woman with primary, nodal, B-cell, marginal zone lymphoma of the left breast, presenting itself under the mask of a benign tumour process, found accidentally following a histopathological examination of excisional samples.

Conclusions

Primary, nodal, marginal zone, B-cell lymphoma of the breast is extremely rare. Its clinical and mammographic presentation completely overlaps with those of fibroadenoma, which makes diagnosing it preoperatively practically impossible. Main treatment method here is not surgical, but radiological and chemotherapeutic.

Key Words

Primary breast lymphoma, extranodal lymphoma, nodal marginal zone lymphoma

Implications for Practice:

1. What is known about this subject?

Primary breast lymphoma is a rare malignant neoplastic disease, accounting for around 0.5 per cent of all malignant diseases of that organ, and also 2.2 per cent of extranodal lymphomas.

2. What new information is offered in this case study?

The clinical presentation of this type of lymphoma when it affects the breast is atypical and most often consists of a palpable non-painful formation.

3. What are the implications for research, policy, or practice?

The clinical and mammographic presentation of this lymphoma of the breast is completely overlapped with those of fibroadenoma, which makes diagnosing it preoperatively practically impossible.

Background

Primary breast lymphoma is a rare malignant neoplastic disease, accounting for around 0.5 per cent of all malignant diseases of that organ, and also 2.2 per cent of extranodal lymphomas.¹⁻³ 95 per cent of cases are women, while for men the frequency is less than 5 per cent.^{4,5} The most

common histopathological types are: diffuse large B-cell lymphoma, extranodal B-cell marginal zone lymphoma and MALT lymphoma.^{6,7} The primary affected group is with median age between 55 and 62 years.^{8,9}

Here we will present a rare clinical case of a 68-year-old woman with nodal B-cell marginal zone lymphoma of the left breast. Clinically and on the X-ray imaging it presents itself as a benign tumour in the upper outer quadrant, without any data of extramammary affection. Final diagnosis was decided on following an immunohistochemical examination of the radical excision material.

Case Details

We present a 68-year-old woman with accompanying diseases, including chronic bronchitis, type 2 diabetes and hypertension. One month before the current hospital admission she palpated a slightly painful hard lump with size 2 in 2cm in the upper outer part of her left breast. A mammography was immediately performed, which revealed 2 closely positioned strong shadows in the upper outer quadrant. The bigger one was with size 2 in 2cm. The finding was fitting for benign tumour formations (fibroadenomas) (Figure 1).

Because of this the patient is admitted to the surgery department for their surgical removal. Before the hospitalization a chest X-ray was performed, which shows: chronic bronchitis, free side costodiaphragmatic recess, hypertonic heart, aortosclerosis and lack of data for any mediastinal lymphadenomegaly (Figure 2).

On the performed abdominal ultrasound exam, at the same time, there are no signs of pathologically enlarged lymph nodes or changes in the other abdominal organs.

During the physical examination of the affected breast a hard-elastic tumour mass was palpated; sizes around 2 in 2cm, smooth and sharp borders, slightly painful, positioned in the upper outer quadrant of the left breast. Second mass was not found. No signs of axillary lymphadenomegaly on the left side. That description completely fits the clinical presentation of a fibroadenoma.

A wide radical excision was performed on the affected quadrant, aiming to remove the formations completely. Following the excision the sample was cut in half, which revealed a well capsulated tumour without infiltration, with brownish, soft inside part, slightly prolapsing towards the capsule, with size 2 in 2cm. The formation macroscopically

evaluated as a fibroadenoma and was sent for histopathological examination.

The result was, as follows: lymph node with obliterated structure; small, atypical, centrocyte-like lymphoid cells were found, proliferating around germinal centres and occupying the mantle zones and intrafollicular areas.

Immunohistochemistry: CD20+/+; CD10/-; CD5/-; CyclinD1/-/

Pathological diagnosis: Nodal marginal zone lymphoma (Figure 3).

When the final diagnosis was confirmed, the patient was sent to a haematology clinic for follow-up treatment.

Discussion and Conclusion

Primary breast affection by a lymphoma is very rare disease and its frequency is around 0.5 per cent of all malignant diseases of the mammary gland, and it accounts for 2.2 per cent of all extranodal lymphomas.¹⁻³ 95 per cent of the affected patients are women, mainly in the age group between 55 and 62 years.^{4,5,8,9} The main histopathological types are B-cell, and those are 3 (diffuse large B-cell lymphoma, extranodal B-cell marginal zone lymphoma and MALT lymphoma).^{6,7}

Too little is known about the risk factors, causing this type of lymphoma, but still, the drop of immunity, some autoimmune conditions, HCV and some more rare bacterial infections lead to its development.^{10,11}

Nodal B-cell marginal zone lymphoma grows relatively slowly, and has better prognosis than the rest of the B-cell lymphomas.¹²

The clinical presentation of this type of lymphoma when it affects the breast is atypical and most often consists of a palpable non-painful formation. It is possible for both breasts to be affected.¹³⁻¹⁵

Diagnosis is confirmed through histopathological and immunohistochemical tests of a biopsy material from the lesion.¹⁶⁻¹⁸

Main method of treatment of a nondisseminated disease is local, including radiotherapy and local radical excision, and in 25 per cent of cases systemic chemotherapy is required. Nowadays radical surgical interventions on the affected breast are not preferred.^{13,19}

The presented case shows intranodal, primary, marginal zone B-cell lymphoma of the breast, which is probably more rare than the extranodal such, since despite the in-depth medical literature search, we couldn't manage to find a similar clinical case. Also, the lymphoma was found accidentally and both clinically and mammographically it was presented as a benign tumour process of the breast, and no data for lymph dissemination was present.

About the macroscopic finding, it looks like a fibroadenoma with well-defined capsule, but unlike a fibroadenoma, the core was brown.

The exact diagnosis was reached through deep histopathological and immunohistochemical examination of the excision sample.

Apart from the radical excision, that we performed, the patient also underwent the corresponding for her type of lymphoma polychemotherapy.

In conclusion the primary, nodal, marginal zone, B-cell lymphoma of the breast is extremely rare. Its clinical and mammographic presentation completely overlaps with those of fibroadenoma, which makes diagnosing it preoperatively practically impossible.

Diagnosis is confirmed precisely only after a combination of histopathological and immunohistochemical examination of the sample.

Main treatment method here is not surgical, but radiological and chemotherapeutic.

References

1. Kim SH, Ezekiel MP, Kim RY. Primary lymphoma of the breast. *Am J Clin Oncol.* 1999;22:381–383.
2. Shapiro CM, Mansur D. Bilateral primary breast lymphoma. *Am J Clin Oncol.* 2001;24:85–86.
3. Domchek SM, Hecht JL, Fleming MD, et al. Lymphomas of the breast: primary and secondary involvement. *Cancer.* 2002;94:6–13.
4. Li PZ, Duo N, Bao SH, et al. A case of misdiagnosis dealt with male primary breast lymphoma. *Linchuang Wuzhen Wuzhi.* 2007;20:71.
5. Yasuo M, Masatoshi N, Hitomi K, et al. A male with primary breast lymphoma. *Am J Hematol.* 2009;84:191–192.
6. Tavassoli FA, Devilee P. Malignant lymphoma and metastatic tumours. World Health Organization Classification of Tumours: Pathology and Genetics. Tumors of the Breast and Female Genital Organs. IARC (ed); Lyon: pp. 107–109. 2003.
7. Brogi E, Harris NL. Lymphomas of the breast: pathology and clinical behaviour. *Semin Oncol.* 1999;26:357–364.
8. Lyons JA, Myles J, Pohlman B, et al. Treatment of prognosis of primary breast lymphoma: a review of 13 cases. *Am J Clin Oncol.* 2000;23:334–336.
9. Yang WT, Lane DL, Le-Petross HT, et al. Breast lymphoma: Imaging findings of 32 tumors in 27 patients. *Radiology.* 2007;245:692–702.
10. Ferreri AJ, Zucca E. Marginal-zone lymphoma. *Crit Rev Oncol Hematol.* 2007;63(3):245–256.
11. Hjalgrim H, Engels EA. Infectious aetiology of Hodgkin and non-Hodgkin lymphomas: a review of the epidemiological evidence. *J Intern Med.* 2008;264(6):537–548.
12. Marginal Zone Lymphoma - Lymphoma Research Foundation. www.lymphoma.org. Retrieved 2017-11-06.
13. Martinelli G, Ryan G, Seymour JF, et al. Primary follicular and marginal-zone lymphoma of the breast: clinical features, prognostic factors and outcome: a study by the International Extranodal Lymphoma Study Group. *Ann Oncol.* 2009;0:1993–1999.
14. Karlin N. Comprehensive Management of Benign and Malignant Diseases, 4th ed. 2009, Chapter 17, Breast Lymphoma. 315–320.
15. Arnold S, Freedman MD, Jonathan Friedberg MD. Breast Lymphoma, UpToDate@2016. Edited by Daniel F Hayes MD, Rebecca F Connor MD, W. Post, published by UpToDate in Waltham, MA. Topic 791 Version 20.0. Topic last updated: Feb 17, 2016.
16. Cohen SM, Magdalena P, Mala V, et al. Non-Hodgkin's lymphoma of mucosa-associated lymphoid tissue. *Oncologist.* 2006;11(10):1100–1117.
17. Auer A, Gascoyne RD, Connors JM, et al. t(11;18)(q21;q21) is the most common translocation in MALT lymphomas. *Ann Oncol.* 1997;8(10):979–985.
18. Ott G, Katzenberger T, Greiner A, et al. The t(11;18)(q21;q21) chromosome translocation is a frequent and specific aberration in low-grade but not high-grade malignant non-Hodgkin's lymphomas of the mucosa-associated lymphoid tissue (MALT-) type. *Cancer Res.* 1997;57(18):3944–3948.
19. Jennings WC, Baker RS, Murray SS, et al. Primary Breast lymphoma the role of mastectomy and the importance of lymph node status. *Ann Surg.* 2007;245(5).

PEER REVIEW

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CONFLICTS OF INTEREST

The authors declare that they have no competing interests.

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PATIENT CONSENT

The authors, *Strashilov S, Yordanov A, Nanev V, Mihailova M*, declare that:

1. They have obtained written, informed consent for the publication of the details relating to the patient(s) in this report.
2. All possible steps have been taken to safeguard the identity of the patient(s).
3. This submission is compliant with the requirements of local research ethics committees.

Figure 3: Pathological finding

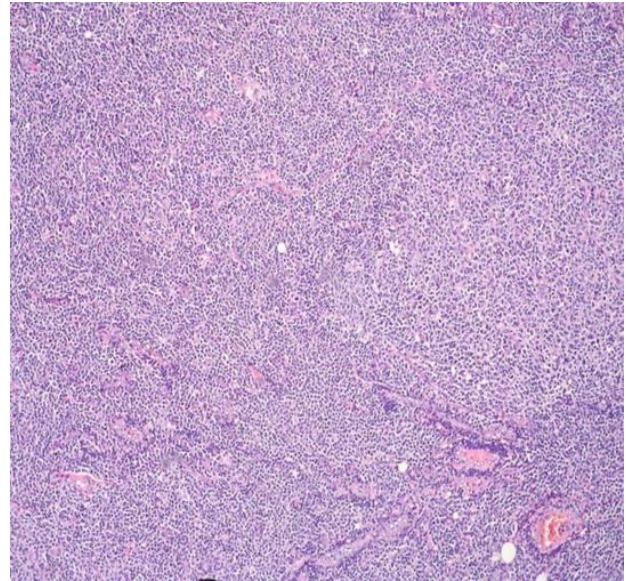


Figure 1: Mammography of the left breast

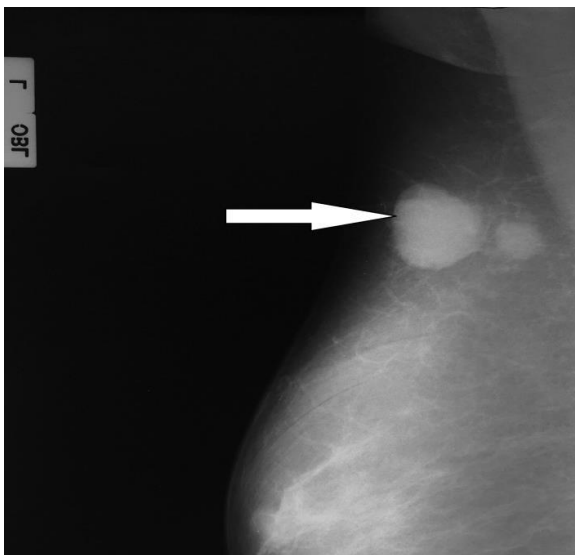


Figure 2: Chest X-ray findings

