

# Primary breast lymphoma

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**Abstract:** Primary breast lymphoma is very rare, representing less than 1% of breast malignancies. It affects elderly patients, with a median age of 60 to 70 years. The clinical and radiological presentation of breast lymphoma is not specific. Treatment is based on chemotherapy.

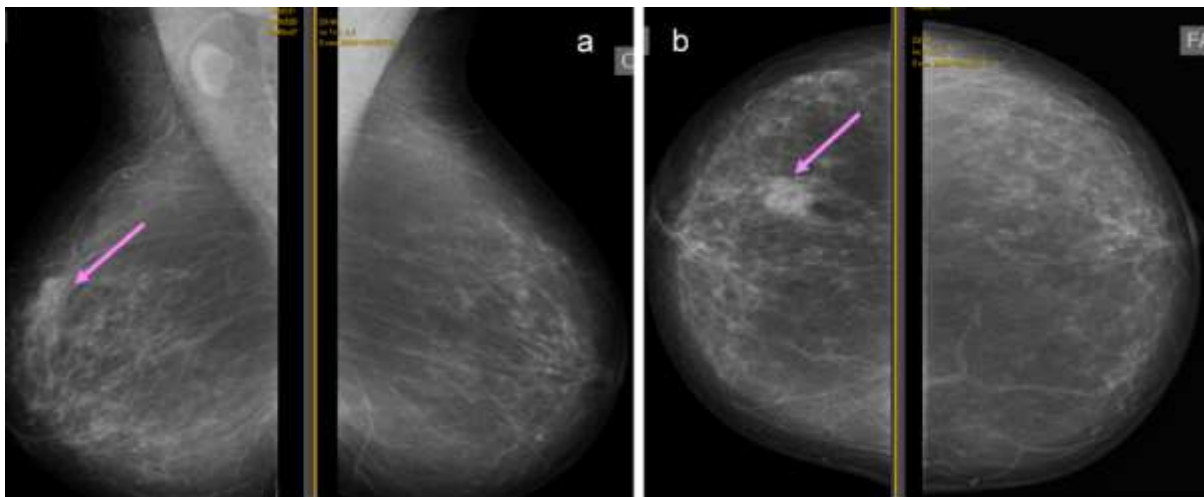
**Keyword:** Breast, lymphoma, chemotherapy

## Introduction

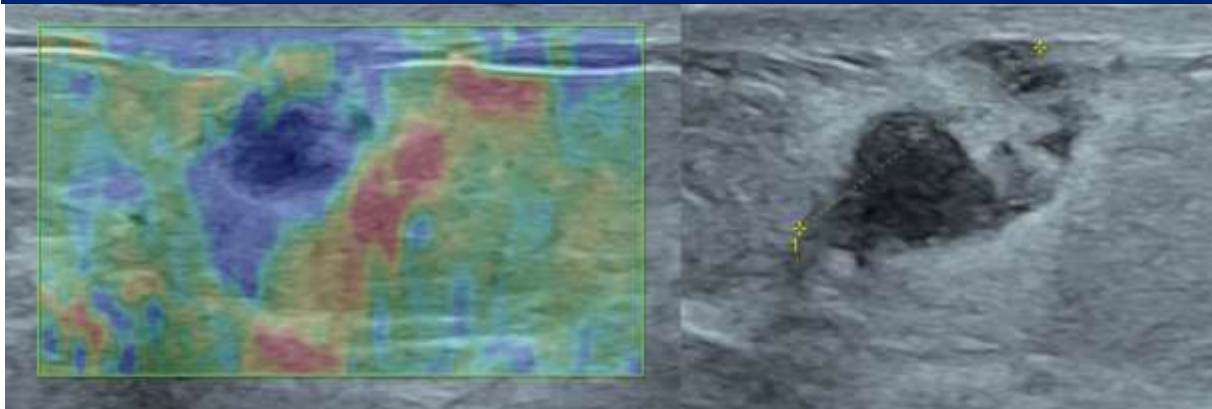
Primary breast lymphoma is very rare, representing less than 1% of breast malignancies [1, 2]. It affects elderly patients, with a median age of 60 to 70 years. The clinical and radiological presentation of breast lymphoma is not specific.

## Clinical observation

We report the case of a 60-year-old diabetic patient, who consulted for a nodule of the right breast. Mammography showed an oval, heterogeneous, poorly limited opacity of the right breast upper-external quadrant, with contours masked by the gland (Figure 1). Ultrasound showed a small tissue lesion in the right upper-external quadrant of the breast, superficial in contact with the skin covering, very hypoechoic, heterogeneous, surrounded by a peripheral halo, hard on elastography, classified as ACR4b (Figure 2). Since she was a diabetic patient, a cold abscess could not be ruled out, hence the decision to perform a microbiopsy and a breast MRI at the same time. This MRI will be used both for the diagnosis in case of radio-histological discordance, and for the local extension assessment if a conservative treatment is considered. Breast MRI confirmed the suspicious tumor character of the lesion, which presented an hyposignal T1 hypersignal T2 intermediate, restrictive in diffusion, which enhances in a heterogeneous way, with an extension to the skin covering (Figure 3). The histological and immunohistochemical appearance was in favor of a high-grade malignant LMNH, B phenotype and diffuse large cell type. The extension assessment based on a thoraco-abdomino-pelvic CT scan was normal. Given the aggressiveness of the tumor, a PET CT scan was performed, and confirmed the presence of a hypermetabolic focus in the right breast, with no abnormalities in the rest of the volume explored, particularly in the visceral and osteo-medullary areas (Figure 4). The patient received chemotherapy followed by radiotherapy, with a good evolution, declared cured, currently under surveillance.



**Figure 1:** Oblique (a) and frontal (b) mammograms showing an oval, heterogeneous, poorly defined opacity in the upper-external quadrant of the right breast, with contours masked by the gland



**Figure 2:** Ultrasound scan shows a very hypoechoic heterogeneous tissue lesion in the superior-external quadrant of the right breast surrounded by a peripheral halo, hard on elastography, classified as ACR4b



**Figure 3:** Breast MRI showing a suspicious lesion in hypointense T1 hyperintense T2 intermediate, restrictive in diffusion, which enhances heterogeneously, with extension to the skin covering.

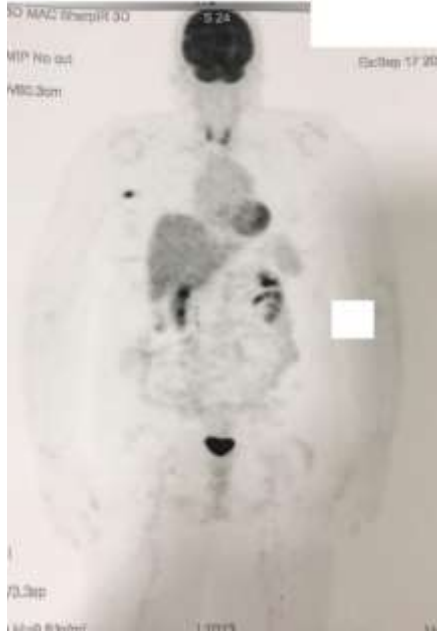


Figure 4:

PET scan

### Discussion

The breast is a rare site of lymphoma development because there is little lymphoid tissue. The frequency of primary breast lymphoma is estimated to be 0.04-0.52% of all breast neoplasia and 2.2% of extra-nodal lymphomas [1, 2]. There are two forms, the primary lymphoma in case of uni or bilateral breast localization associated with loco-regional axillary and or supra-clavicular lymph nodes. Secondary lymphoma is more frequent, in case of other distant localizations or in case of a history of lymphoma. The involvement is often unilateral, the bilateral localization is seen especially in young, pregnant or lactating women, with a rapid dissemination to the ovaries and the central nervous system. Histologically, it is often Burkitt's lymphoma [3]. The most frequent histological types are diffuse large B-cell lymphomas, which have the particularity of relapsing as extension to the central nervous system [2]. Imaging is non-specific. Mammography usually shows a hyperdense oval mass, rarely well limited, with non visible margins. Calcifications are very rare. And sometimes a subcutaneous thickening due to lymphedema. Ultrasound shows a hypoechoic round or oval hypervascular mass, rarely with calcifications. Breast MRI explores the breasts very well, and the mass presents a homogeneous or heterogeneous enhancement, with a type II curve. Penetrating vessels are frequent. With an important restriction in diffusion.

The initial assessment is essential and must be complete, as it determines the intensity of the first-line treatment. It is an aggressive tumor that requires an extension evaluation by FDG PET scan. Treatment is based on chemotherapy, and radiotherapy keeps a variable place [4].

### Conclusion

Primary breast lymphoma is a rare entity, which affects elderly patients. The clinical and radiological picture is polymorphous and non-specific. Treatment is based on chemotherapy.

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