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Case Report

Asymptomatic marginal zone lymphoma detected on routine mammogram, an unusual presentation

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ABSTRACT

A patient in her 60 years presented for routine mammographic screening. A lesion was identified, which on biopsy was proven to be marginal zone lymphoma (MZL). MZL is a group of indolent non-Hodgkin's B-Cell lymphomas. Involvement of breast tissue is rare and can mimic more common breast pathology. In addition, the patient had widespread subcutaneous lesions which is also atypical of the cutaneous form of MZL lymphoma. This case describes the multi-modality radiological findings of this uncommon presentation of diffuse cutaneous MZL.

Keywords: MZL, Mammogram, Incidental finding, Breast cancer

INTRODUCTION

Marginal zone lymphomas (MZL) make up 9% of new cases of non-Hodgkin's lymphoma.[1] MZLs are collectively the most common indolent lymphomas.[2–4] Signs and symptoms of MZL are typically non-specific but can include fatigue, fever, weight-loss and night sweats. Lymphoma is most commonly diagnosed using blood tests including blood film, lymph node biopsy and subsequent imaging. Beginning to investigate for lymphoma, as with many diseases, typically requires signs or symptoms to prompt clinicians to investigate in the first place. MZLs typically have a 5-year survival of approximately 80%.[5] Indolent low-grade lymphoma may be managed with surveillance as it tends to be slow growing. MZLs have a heterogenous prognosis, and management can vary depending on nodal, extra-nodal or splenic disease.

Management is further guided by symptom burden and likelihood of transformation to a more aggressive lymphoma. All MZLs can transform into an aggressive lymphoma.

CASE REPORT

A 68-year-old non-indigenous woman living in regional Australia presented for routine mammography screening. Mammography demonstrated a subtle bilateral fine nodular pattern extending to the axilla.

The patient was asymptomatic and denied systemic symptoms including B-symptoms and weight loss. She had a medical history of hypertension. Her only regular medication was an anti-hypertensive medications lercanidipine and enalapril. The patient lived at home with her husband and was independent of all activities of daily living. She had a family history of breast cancer with BRCA2 gene mutation with four of seven of her siblings being positive but was negative herself for this gene mutation.

Excision biopsy of the left chest wall was performed. During the excision biopsy innumerable small rubbery nodules within subcutaneous tissue were noted. Histopathology demonstrated findings of B-cell non-

Hodgkin lymphoma, favouring marginal zone lymphoma, with likely secondary subcutaneous deposits.

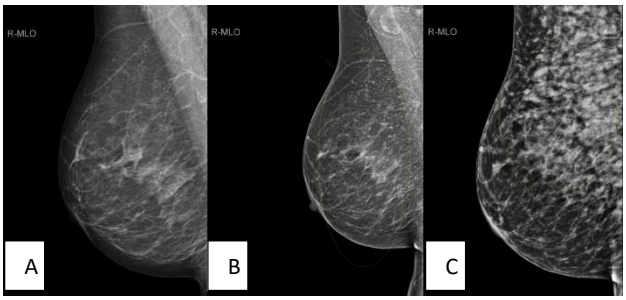

Figure 1 (A-C): Right medial-lateral-oblique mammogram. Left-2019, centre-2021 and right-2023.

Figure 2: Portal venous CT axial images through the bladder demonstrating an iso-attenuating mass abutting the left lateral wall of the bladder.

Figure 3: CT axial breast demonstrating intraabdominal lesions and subcutaneous lesions.

The patient went on for further investigations including included US, MRI, CT, and PET.

The patient was referred to urology for management of the bladder mass and referred to haematology for management of her lymphoma. Urology performed a transurethral resection of bladder tumour, removing two masses, 8 cm and 5 cm. Histopathology of this confirmed low-grade B-cell lymphoma, favouring extranodal marginal zone lymphoma. The patient was discussed at oncology MDT and deemed suitable for discharge from urology with ongoing management from haematology.

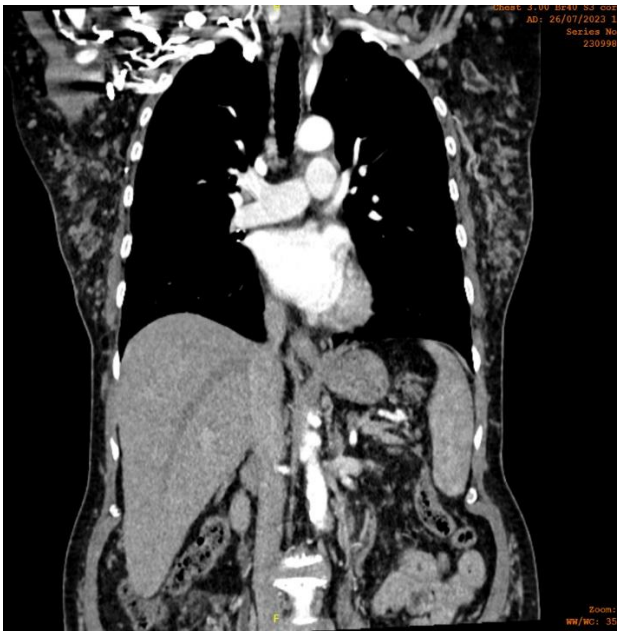

Figure 4: CT coronal demonstrating intraabdominal and subcutaneous lesions.

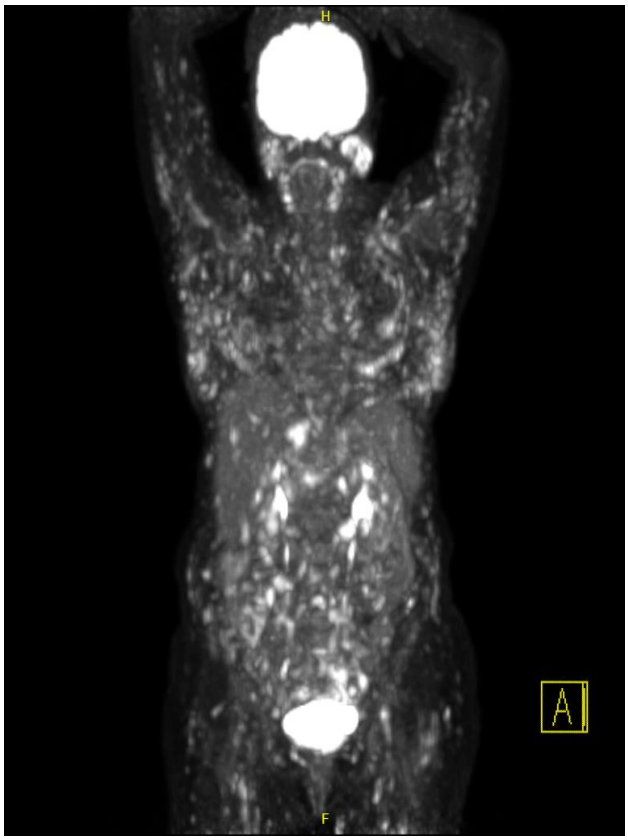

Figure 5: PET.

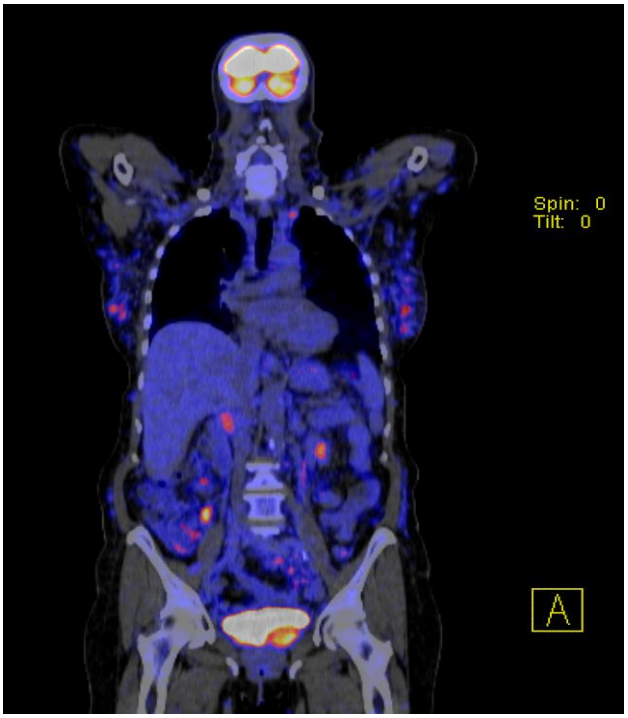

Figure 6: Fused PET CT images demonstrating abnormal activity on the breasts, with intraabdominal lesions and left hemi bladder mass.

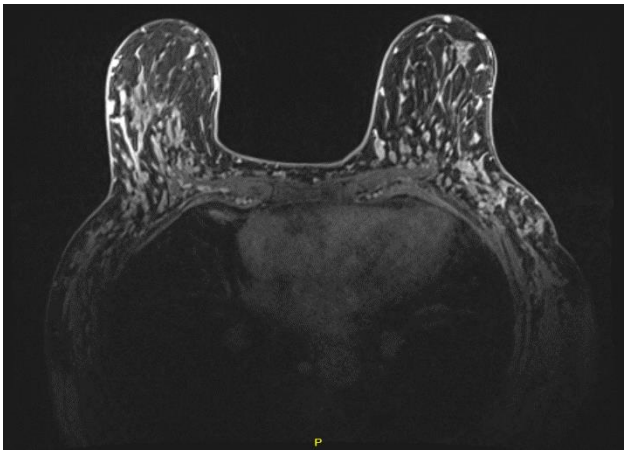

Figure 7: MRI axial breast.

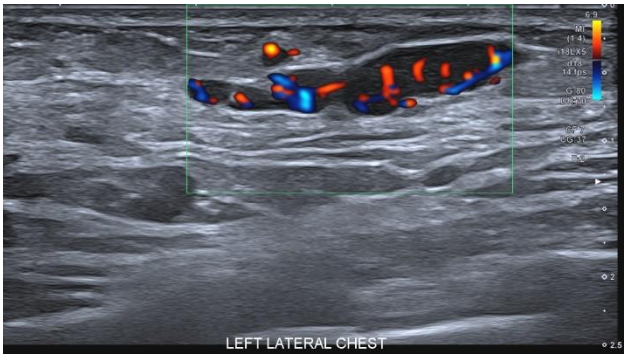

Figure 8: US chest wall demonstrating flow within the left lateral chest wall lesion.

DISCUSSION

Indolent lymphomas typically present with non-specific symptoms including fevers, weight loss, night sweats and fatigue. This case demonstrates an atypical incidental finding of asymptomatic widespread disease diagnosed with mammography as a part of the breast screen programme. Sensitivity and specificity of breast screening for malignancy is approximately 77.6% and 98.8%.[6] Primary breast lymphoma is a rare presentation making up only 1% of malignant breast neoplasms.[7]

A screening breast mammogram in June 2021 showed an abnormal bilateral fine nodular pattern extending to the axilla (Figure 1). Mammography is considered gold standard for screening for breast cancer.[8] This finding was new when compared to the mammogram from 2019. The abnormality detected in June 2021 prompted investigation with MRI. Use of MRI can detect breast early breast cancers earlier than mammogram.[9] The breast MRI showed widespread foci of abnormal enhancement throughout the breast (Figure 7). The patient was seen in breast clinic for clinical examination and deemed fit for discharged back to routine 2-yearly breast screening.

Subsequent mammogram, as part of routine breast screening, in 2023 demonstrated diffuse bilateral breast densities. These had progressed when compared with the findings seen on mammography in 2021, and now showed extensive bilateral nodular opacities, as seen in Figure 1. The subsequent ultrasound showed linear hypoechoic structures, in a symmetrical bilateral distribution. Hypoechoic masses may represent malignancy but are not diagnostic as many benign pathologies can present this way. Both arterial and venous flow was demonstrated on doppler (Figure 8). Arterial flow makes the lesion less likely to be a benign cyst, however parallel arterial and venous flow is strongly indicative of benign pathology.[10]

CT scan PET CT demonstrated innumerable avid nodal lesions above and below the diaphragm, with cutaneous, hepatic, bladder, and bone marrow deposits, consistent with aggressive stage IV lymphoma, as seen in Figure 5 and 6.

CONCLUSION

Indolent lymphomas typically present with non-specific symptoms including fevers, weight loss, night sweats and fatigue. In the absence of these signs or symptoms diagnosis is typically delayed. This case demonstrates an atypical incidental finding of asymptomatic widespread disease diagnosed with mammography as a part of the breast screen programme. Clinicians should be vigilant to consider alternative diagnoses when presented with atypical changes seen on mammogram. This case report will help clinicians to be aware of unusual pathology that can present on mammogram.

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REFERENCES

1. Cheah CY, Zucca E, Rossi D, Habermann TM. Marginal zone lymphoma: present status and future perspectives. Haematologica. 2022;107(1):35.
2. Merli M, Arcaini L. Management of marginal zone lymphoma. Hematology Am Soc Hematol Educ Program. 2022;2022(1):676-87.
3. Sriskandarajah P, Dearden CE. Epidemiology and environmental aspects of marginal zone lymphomas. Best Pract Res Clin Haematol. 2017;30(1-2):84-91.
4. Cerhan JR, Habermann TM. Epidemiology of Marginal Zone Lymphoma. Ann Lymphoma. 2021;5:1-1.
5. Olszewski AJ, Castillo JJ. Survival of patients with marginal zone lymphoma: analysis of the Surveillance, Epidemiology, and End Results database. Cancer. 2013;119(3):629-38.
6. Kolb TM, Lichy J, Newhouse JH. Comparison of the performance of screening mammography, physical examination, and breast US and evaluation of factors that influence them: an analysis of 27,825 patient evaluations. Radiology. 2002;225(1):165-75.
7. Moura C, Leite MI, Parreira R, Medeiros A. Primary breast lymphoma. J Surg Case Rep. 2020;2020(1).
8. Reeves RA, Kaufman T. Mammography. Medical Imaging: Principles and Practices. Treasure Island (FL): StatPearls Publishing. 2024;1-22.
9. Saadatmand S, Geuzinge HA, Rutgers EJT, Mann RM, de Roy van Zuidewijn DBW, Zonderland HM, et al. MRI versus mammography for breast cancer screening in women with familial risk (FaMRIsc): a multicentre, randomised, controlled trial. Lancet Oncol. 2019;20(8):1136-47.
10. Horvath E, Silva C, Fasce G, Ferrari C, Pinochet MA, Galleguillos C, et al. Parallel Artery and Vein: Sign of Benign Nature of Breast Masses. AJR Am J Roentgenol. 2012;198(1):W76-82.

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