Contralateral axillary lymph node metastasis in recurrent ipsilateral breast cancer with Lynch syndrome: a locoregional event

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Introduction

Contralateral axillary lymph node metastasis (CALNM) in breast cancer (BC) is considered a distant metastasis, marking stage IV cancer. Therefore, it is generally treated as an incurable disease. However, in clinical practice, staging and treatment remain controversial due to a paucity of data. Aberrant lymph node drainage following previous surgery or radiotherapy is common. Therefore, CALNM may be considered a regional event rather than systemic disease, and a re-sentinel procedure aided by lymphoscintigraphy permit adequate regional staging.

Case presentation

Here, we report a 37-year-old patient with Lynch syndrome who presented with CALNM in an ipsilateral relapse of a moderately-differentiated invasive ductal BC (ER 90%, PR 30%, HER2 negative, Ki-67 25 %, microsatellite stable), three years after the initial diagnosis. Lymphoscintigraphy detected a positive sentinel lymph node in the contralateral axilla despite no sign of lymph node involvement or distant metastases on FDG PET/CT or MRI. The patient underwent bilateral mastectomy with sentinel node dissection, surgical reconstruction with histological confirmation of the CALNM, left axillary dissection, adjuvant chemotherapy, and anti-hormone therapy. In addition to her regular BC follow-up visits, the patient will undergo annual colonoscopy, gastroscopy, abdominal, and vaginal ultrasound screening. In January 2022 the patient has been free of progression for 7 months after last chemotherapy.

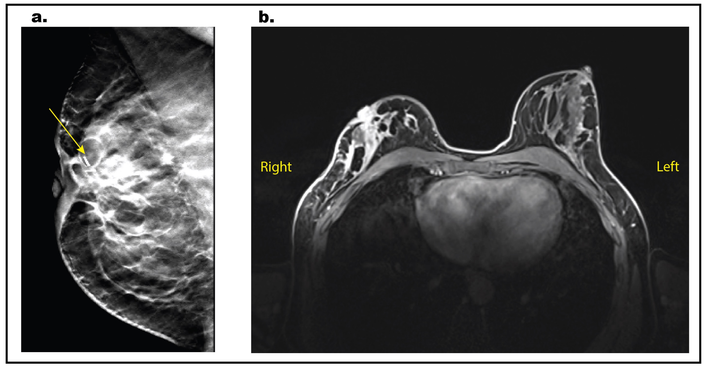

Figure 1 Mammogram and magnetic resonance imaging (MRI) showing ipsilateral breast cancer relapse before neoadjuvant antihormone therapy. (a) Mammogram of the right breast in a mediolateral oblique view with suspicion of a relapse BIRADS 4, ACRb. It shows increased parenchymal density of the upper right quadrant compared to the previous follow-ups, progressive micro-calcifications medial to the clips (arrow), and progressive mamilla retraction. (b) T1-weighted transverse axial dynamic contrast enhanced MRI with fat suppression showing asymmetric accumulation of contrast and restricted diffusion of the whole right breast including the mammilla. There is subcutaneous edema of the right breast, but no sign of lymph node metastases or distant metastases.

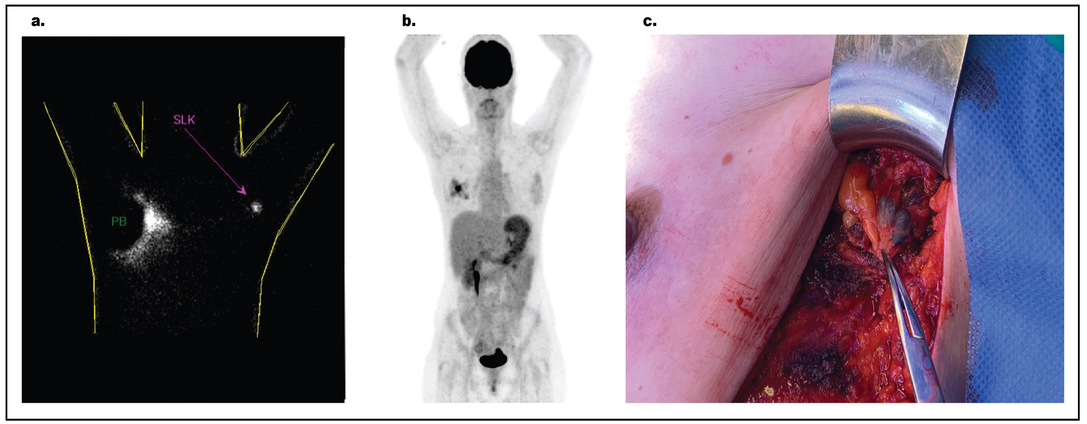

Figure 2 Contralateral lymph node metastasis in recurrent ipsilateral breast cancer (a) Planar sentinel node scintigraphy fifteen minutes after periareolar injection of 70 MBq ^{99m}Technetium-labelled Nanocolloid (NanoHSA-ROTOP®), with detection of the sentinel node (pink arrow) in the left axilla [PB = injection site covered with lead]. (b) Maximum intensity projection of the FDG PET/CT scan, demonstrating diffuse multifocal hypermetabolism of the recurrent mamma carcinoma on the right, without lymph node metastases or distant metastases. (c) Intraoperative left axilla with detection of two patent blue V and technetium-positive lymph nodes.

Author	Year	Article type	Number	LSG	SNB	Treatment
Lim I. et al.	2004	Case report	1	Yes	Yes	curative
Agarwal A. et al.	2005	Prospective repeat SNB study	1	Yes	Yes	curative
Roumen R. et al.	2006	Prospective repeat SNB study	2	Yes	Yes	curative
Taback B. et al.	2006	Prospective repeat SNB study	2	Yes	Yes	curative
Tasevski R. et al.	2009	Retrospective case series	1	Yes	Yes	curative
Maaskant-Braat A. et al.	2013	Prospective repeat SNB study	5	Yes	Yes	curative
Nishimura S. et al.	2014	Case report	1	Yes	Yes	curative
Tokmak H. et al.	2014	Prospective repeat SNB study	1	Yes	Yes	curative
Wang W. et al.	2014	Retrospective case series	14	NA	No	NA
Chkheidze R. et al.	2017	Retrospective case series	2	Yes	Yes	curative
Strazzanti A. et al.	2018	Case report	1	Yes	No	curative
Magnoni F. et al.	2020	Retrospective case series	14	No	NA	curative
Herrera-Martinez Y. et al.	2021	Case report	1	Yes	Yes	curative
Maseki H. et al.	2021	Case report	1	Yes	No	curative
Salih A. et al.	2021	Case report	1	No	No	curative
Current study		Case report	1	Yes	Yes	curative

Table 1 Review of the literature related to ipsilateral breast cancer recurrence with histologically-confirmed contralateral lymph node metastasis. (LSG, lymphoscintigraphy; SNB, sentinel lymph node biopsy; NA, not applicable)

Conclusion

This case highlights the value of delayed lymphoscintigraphy and the contribution of sentinel procedure for local control in the setting of recurrent BC. We propose that CALNM without evidence of systemic metastasis should be considered a regional event in recurrent BC, and thus a curative approach can be pursued. The next AJCC BC staging should clarify the role of CALNM in recurrent BC to allow for the development of specific treatment guidelines.

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