



Case report

Breast cancer recurrence 27 years after full recovery; A case report with literature review

Zuhair D. Hammood^a, Abdulwahid M. Salih^{a,b}, Snur Othman^c, Berwn A. Abdulla^{a,c}, Shvan H. Mohammed^c, Fahmi H. Kakamad^{a,b,c,*}, Sharo Naqar^{a,b}

^a Smart Health Tower, Madam Mitterrand Street, Sulaimani, Kurdistan, Iraq

^b College of Medicine, University of Sulaimani, Madam Mitterrand Street, Sulaimani, Kurdistan, Iraq

^c Kscien Organization, Hamdi Str, Azadi Mall, Sulaimani, Kurdistan, Iraq

ARTICLE INFO

Keywords:

Breast cancer
Recurrence
Axillary lymph node
Metastasis

ABSTRACT

Introduction: Breast cancer can recur after a decade of healthy life. The purpose of this study is to describe a rare case of breast cancer recurrence after 27 years of full recovery.

Case report: A 67-year-old married nulliparous (G1P0A1) female presented with a few weeks of left axillary swelling. She is a known case of left breast cancer that was identified and treated in 1994 with a standard mastectomy without axillary intervention. An ultrasound and mammography imaging revealed a normal right breast and a clear left breast bed. Fine needle aspiration cytology (FNAC) revealed metastasized ductal carcinoma of the breast. The patient underwent general anesthesia and axillary dissection for level I and II axillary lymph node groups.

Discussion: The incidence of recurrence in axillary lymph nodes following excision of the original tumor in breast cancer patients varies according to the surgical approach, ranging from 0.8% to 8.6%. Patients with breast cancer who have a positive estrogen receptor are at a higher risk of delayed recurrence.

Conclusion: Breast cancer can recur even 27 years after being diagnosed and treated. This demonstrates the significance of continuing follow-up in patients diagnosed with breast cancer throughout their lives.

1. Introduction

Survivorship is meant by the duration from the time of cancer diagnosis to the time of death. In the United States (USA), there are more than 2.6 million survivors of breast cancer in which more than half of them are older than 65 years. This increased survival is due to advances in screening and management programs [1].

Despite that, recurrence of breast cancer could occur from 2 to 15 years after initial management that can be found as local, regional, or distant metastasis [2].

About 5% to 35% of breast cancers recur loco-regionally. Local recurrence is usually found after breast-conserving operation or mastectomy in the affected breast including the surrounding soft tissues. Ipsilateral lymphadenopathy (supraclavicular, infraclavicular, axillary, intramammary, and internal mammary) has been classified as a regional recurrence. Regarding breast cancer, metastasis is an affection of the contralateral lymph nodes, contralateral breast malignancy, and sternal bone [3].

Recurrence of breast cancer after a decade of healthy life is possible. This study aims to report a case of recurrence breast cancer after 27 years of cure. The report has been written in line with SCARE 2020 guidelines [4].

2. Case presentation

2.1. Patient information

A 67-year-old, married, nulliparous (G1P0A1) female presented with left axillary swelling for a few weeks. She is a known case of left breast cancer diagnosed and managed by simple mastectomy in 1994 without axillary intervention. The patient could not recall the details of adjuvant therapy. Past medical, social, and drug history was negative.

2.2. Clinical findings

There was a transverse old scar in the bed of the left breast (old

* Corresponding author at: Doctor City, Building 11, Apartment 50, Sulaimani 00964, Iraq.

E-mail address: fahmi.hussein@uniuvsul.edu.iq (F.H. Kakamad).

<https://doi.org/10.1016/j.ijscr.2022.106827>

Received 5 January 2022; Received in revised form 4 February 2022; Accepted 10 February 2022

Available online 12 February 2022

2210-2612/© 2022 Published by Elsevier Ltd on behalf of IJS Publishing Group Ltd. This is an open access article under the CC BY-NC-ND license

(<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

mastectomy). There is a palpable, firm, non-tender, and mobile left axillary lump with normal skin over it. Organ and system examinations were unremarkable.

2.3. Diagnostic assessment

Ultrasound and mammography examination revealed normal right breast and clear bed of the left breast. There were suspicious left axillary lymph nodes. Fine needle aspiration cytology (FNAC) showed metastasized breast ductal carcinoma of NOS type and moderately differentiated (grade II) while the IHC study was +ve for CEA & CA15.3. Positron emission tomography scan/computed tomography (PET/CT) scan showed no other suspicious lesions elsewhere.

2.4. Therapeutic intervention

The patient was prepared for general anesthesia and axillary dissection for level I & II axillary lymph node groups was done. Final histopathological examination proved 3 out of 10 lymph nodes (pN1b) were involved by breast malignancy.

2.5. Follow-up

The post-operative period was smooth without any complications while the patient was sent to the oncologist for adjuvant therapy.

3. Discussion

After treatment of breast cancer, about 20% of them recur [2].

Recurrence could be early and late (delayed), any recurrence less than five years from the initial treatment is early recurrence. If a patient with breast cancer presented with recurrence after five years from the diagnosis it is regarded as delayed recurrence [5].

The incidence of recurrence in axillary lymph nodes following resection of the primary tumor breast cancer patients varies according to the surgical techniques, ranging from 0.8% to 8.6%. Breast cancer patients with positive estrogen receptor (ER) have an increased risk for delayed recurrence [5]. The primary and metachronous tumors may differ in several biomarkers including ER and HER2, such as axillary lymph node metastases [6].

If recurrence happened in the intact breast, it is possible to be managed with mastectomy alone without reirradiation, the cases of inflammatory recurrences, unresectable recurrence, positive margins, or multiple positive nodes, radiation may be useful [7].

Several factors like grade, hormone receptor status, and stage are linked with recurrence. Higher-stage breast cancer has a greater tendency to recur. A recent paper shows that recurrence rates of 13%, 11%, and 7% after 5 years for stage III, II, I breast cancer cases, respectively. Negative estrogen receptors (ER) and invasion of lymph nodes are associated with a higher rate of relapse and shorter period of tumor-free survival [2].

The recurrence risk among positive estrogen receptor patients has been proven to be variable, with a lesser risk of recurrence in the first two years than in the later years [1].

Common approaches for screening of recurrent breast cancer are physical examination, blood tests and periodic mammography [2].

Studies on genetic factors of late recurrence are promising for further understanding of the higher risk of disease recurrence after 5 years in old patients with positive estrogen receptor tumors [1].

In a study by CNCR and colleagues it was revealed that, in metastatic breast cancer, the site of recurrence, the number of affected axillary lymph nodes, and estrogen receptor status are predictors of survival [8].

The status of axillary lymph nodes is the most significant predictive factor. Prognosis deteriorates with an increasing number of involved axillary lymph nodes. According to the TNM classification of the American Joint Committee on Cancer (AJCC)/International Union

Against Cancer (UICC), lymph node involvement is categorized into three groups depending on the number of metastatic axillary lymph nodes: N1, 1–3 involved lymph nodes, N2, 4–9 involved lymph nodes and N3, more than 9 metastatic lymph nodes [9]. This might be skewed as the number of metastatic axillary lymph nodes is governed by the number of excised and examined lymph nodes.

According to recent studies, the lymph node ratio (the ratio of involved lymph nodes to the removed ones) is more useful [9].

Yildirim and Berberoglu determined the optimum lymph node ratio threshold as 0.15 for loco-regional recurrence and 0.20 for metastasis and determined significantly higher disease recurrence rates in patients having a LNR above these thresholds [9].

In conclusion, breast cancer could recur even after 27 years after the initial diagnosis and treatment. This signifies the importance of continuous follow-up in patients diagnosed with breast cancer throughout their life span.

Consent

Written informed consent was obtained from the patient's family for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Sources of funding

None is found.

Provenance and peer review

Not commissioned, externally peer-reviewed.

Ethical approval

Approval is not necessary for case report (till 3 cases in single report) in our locality.

The family gave consent for the publication of the report.

Guarantor

Fahmi Hussein Kakamad.

Research registration

Not applicable.

CRediT authorship contribution statement

Abdulwahid M. Salh: major contribution of the idea, literature review, final approval of the manuscript.

Zuhair D Hammood: Surgeon performing the operation, final approval of the manuscript.

Snur Othman, Fahmi H. Kakamad: Writing the manuscript, literature review, final approval of the manuscript.

Berwn A. Abdulla, Shvan H. Mohammed, Sharo Naqar: literature review, final approval of the manuscript.

Declaration of competing interest

None to be declared.

References

- [1] Jaclyn L.F. Bosco, Timothy L. Lash, Marianne N. Prout, Diana S.M. Buist, Ann M. Geiger, Reina Haque, et al., Breast cancer recurrence in older women five to ten years after diagnosis, *Cancer Epidemiol. Biomark. Prev.* 18 (11) (2009) 2979–2983.

- [2] Vincent M. Asiago, Leiddy Z. Alvarado, G.A. Narasimhamurthy Shanaiah, Nagana Gowda, Kwadwo Owusu-Sarfo, Robert A. Ballas, et al., in: Early Detection of Recurrent Breast Cancer Using Metabolite Profiling, 70, American Association for Cancer Research, 2020, pp. 8309–8317.
- [3] Ashvini Menon, Haitham Khalil, Babu Naidu, Ehab Bishay, Richard Steyn, Maninder S. Kalkat, Chest wall resection and reconstruction for recurrent breast cancer e a multidisciplinary approach, *Surgeon* 18 (4) (2020) 208–213.
- [4] R.A. Agha, T. Franchi, C. Sohrabi, G. Mathew, A. Kerwan, A. Thoma, et al., The SCARE 2020 guideline: updating consensus surgical case report (SCARE) guidelines, *Int. J. Surg.* 84 (2020) 226–230.
- [5] Akiko Ogiya, Kieko Yamazaki, Rie Horii, Tadahiko Shien, Yoshiya Horimoto, Norikazu Masuda. Et al. Post-relapse survival in patients with the early and late distant recurrence in estrogen receptor-positive HER2-negative breast cancer, *Breast Cancer* 24 (3) (2017) 473–482.
- [6] Naoya Ishibashi, Haruna Nishimaki, Toshiya Maebayashi, Masaharu Hata, Keita Adachi, Kenichi Sakurai, et al., Changes in the Ki-67 labeling index between primary breast cancer and metachronous metastatic axillary lymph node: a retrospective observational study, *ThoracicCancer* 10 (2019) 96–102.
- [7] Adam R. Burr, Ian Robins, Adam Bayliss, Steven P. Howard, Pulsed reduced dose rate for reirradiation of recurrent breast cancer, *Pract. Radiat. Oncol.* 10 (2) (2020) 61–70.
- [8] Sharon H. Giordano, Aman U. Buzdar, Terry L. Smith, Shu-Wan Kau, Ying Yang, Gabriel N. Hortobagyi, Is breast cancer survival improving? *Trends Breast Cancer Surviv.* 100 (1) (2004) 44–52.
- [9] Nuvit Duraker, Bakır Batı, Davut Demir, C. Zeynep Civelek, aynak, Prognostic significance of the number of removed and metastatic lymph nodes and lymph node ratio in breast carcinoma patients with 1–3 axillary lymph node(s) metastasis, *ISRN Oncology* 645450 (2011) 2–10.