“BREAST CANCER SURVIVOR APPROACHING WITH PARASTERNAL MASS AFTER 12 YEARS: LATE RELAPSE? A CASE REPORT”

Oncology

Dr Sharma Jyoti* MD Radiotherapy Tertiary Cancer Centre, IGMC Shimla, (H.P), INDIA. *Corresponding Author

Dr Damini Sharma Junior Resident 2nd year (MD Radiotherapy) Tertiary Cancer Centre, IGMC Shimla, (H.P), INDIA.

ABSTRACT

Introduction: Breast cancer is one of the common cancers & is responsible for leading cause of cancer death among the women worldwide. The risk of local and distant recurrence is the highest during the first two years post initial treatment. Late relapse is uncommon in breast cancer survivors.

Case Report: We report a case of 48-year-old breast cancer survivor reporting 12 years after being treated for left sided breast cancer. She reported with c/o shortness of breath and backache as her chief complaint. CECT Thorax revealed well defined lobulated soft tissue lesion in rt subdiaphragmatic para sternal location. Biopsy and IHC from this mass revealed adenocarcinoma consistent with breast origin with ER, PR positivity.

Conclusion: The question arises that is lifelong follow up required in ca breast patients as late relapses are not quite common but can arise at any stage in breast cancer.

KEYWORDS

breast cancer survivor, late relapse, parasternal mass

INTRODUCTION:

Breast cancer is one of the common cancers & is responsible for leading cause of cancer death among the women worldwide. The risk of local and distant recurrence is the highest during the first two years post initial treatment. Late relapse is uncommon in breast cancer survivors¹. luminal A (ER&PR Positive) is associated with a low risk of recurrence, then the luminal B and luminal HER2, while the subtype of non-luminal HER2 and triple negative have a high risk.² Only few cases of late relapse have been published. Here, we report a case of a breast cancer survivor treated with surgery, chemotherapy and hormonal treatment but unfortunately faced late relapse after 12 years in thorax with CECT showing a parasternal mass confirmed by biopsy and IHC.

Case History

We report a case of 48-year-old female patient reporting to our centre with c/o shortness of breath and backache since past one-month duration. It was insidious in onset, gradually progressive and on exertion. There was history of backache since past one month, insidious in onset, intermittent, gradually progressive. She was post-menopausal, Para 2, non-smoker, did not consume alcohol and vegetarian. There was h/o left sided breast cancer 12 year back for which she underwent left sided mastectomy, chemotherapy and followed by hormonal treatment based on tamoxifen for 5 years.

On general physical examination and systemic examination nothing significant was observed. Local examination revealed well healed scar (post left mastectomy status) on left chest wall and normal right breast with mild tenderness in right parasternal area. There was no palpable lymphadenopathy.

Workup of the patient was done. Routine investigations were within normal limits. Chest X ray revealed e/o irregular radio-opacity in Rt Middle zone s/o? consolidation with raised right dome of diaphragm. CECT Thorax & abdomen were s/o well defined lobulated enhancing soft tissue lesion in Right subdiaphragmatic region in para sternal location 38x33mm and a similar lesion in mediastinal region. FNAC from the mediastinal mass was consistent with adenocarcinoma. Biopsy from the para sternal mass was s/o adenocarcinoma from Breast origin with ER, PR positivity. Bone scan revealed no e/o skeletal metastasis.

Patient was then confirmed as a case of ca breast with relapse and was started on chemotherapy based on docetaxel and cyclophosphamide. Patient had more than 50 % improvement in symptoms post 2 cycles of chemotherapy. She was given total of 6 cycles of same chemotherapy and response was assessed radiologically.

CECT revealed a patch of consolidation Rt lower lobe and few calcified nodules, mediastinal LAP with new hypodense area

2.1x1.8x3.7 cm in liver s/o mets. Patient was planned on continuation of chemotherapy for progression which was refused by the patient. She was then put on hormonal treatment based on tamoxifen and on 2 monthly routine follow up. Patient remained symptom free for 3 years. She again presented with SOB after approximately 3 years and palpable para sternal mass 3x3 cm and PET CT revealed progressive disease with pleural effusion and skeletal mets. Repeat biopsy from mass revealed metastatic adenocarcinoma with breast origin. Patient was then planned for palliative chemotherapy and palliative radiotherapy. Ovarian ablation (Image: 1) was done and prognosis of the disease was explained to the patient.

Image 1: Simulation image for ovarian ablation.

DISCUSSION:

There have been very few case reports of late relapse in breast cancer patients^{1,2,6}. Breast cancer is a quite common cancer with leading cause of cancer death in females. Alain Fourquet⁸ et al in their study with 25 year of follow up, found that local control in breast was significantly impaired by young age, premenopausal status, inadequate gross surgical excision, extensive ductal in situ component, and endolymphatic extension. This patient reported in our centre 12-year post treatment of left sided breast cancer thus she was a known risk in view of her young age (<40 years) at the time of diagnosis of ca left breast.

Molecular classification⁹ (Table I) of ca Breast divides breast cancer into four groups as luminal A, luminal B, HER-2, basal like. HER2 and basal like are aggressive subtypes.

This patient was ER, PR Positive and Her2 negative in subsequent biopsy. This is a favourable luminal A subtype. This explains the 3-year symptom free interval despite having developed multiple metastatic lesions.

Table I: Classification of four molecular subtypes of breast cancer

SUBTYPES	Surrogate subtype	ER	PR	HER2	Ki67 (PI)
Luminal A	Luminal A like	+	≥20%	-	<20%
Luminal B	Luminal B like (HER2-)	+	<20% [#]	-	≥20% [#]
	Luminal B like (HER2+)	+	Any	+	Any
Her 2 overexpression	Her2 Positive	-	-	+	Any
Basal Like	Triple Negative	-	-	-	Any

ER- Estrogen receptor, PR-Progesterone receptor, PI-Proliferation index, HER=human epidermal growth factor receptor, - negative, + positive, [#]only one of these criteria to be met to define luminal B type cancer.

CONCLUSION

Late relapse is uncommon in ca breast patients but still some reports are available in literature. This puts every clinician in a dilemma that whether lifelong follow up shall be fruitful in early detection and salvage of relapse especially in favourable subsets of the cancer population.

ACKNOWLEDGEMENT:

Special thanks to radiation technologist Mrs Disha for simulation images.

REFERENCES: -

- Omidvari, S., Hamed, S. H., Mohammadianpanah, M., Nasrolahi, H., Mosalaei, A., Talei, A., Ahmadloo, N., & Ansari, M. (2013). Very late relapse in breast cancer survivors: a report of 6 cases. *Iranian journal of cancer prevention*, 6(2), 113–117.
- Arvold, N. D., Taghian, A. G., Niemierko, A., Abi Raad, R. F., Sreedhara, M., Nguyen, P. L., Bellon, J. R., Wong, J. S., Smith, B. L., & Harris, J. R. (2011). Age, breast cancer subtype approximation, and local recurrence after breast-conserving therapy. *Journal of clinical oncology: official journal of the American Society of Clinical Oncology*, 29(29), 3885–3891. <https://doi.org/10.1200/JCO.2011.36.11053>. Tashima Y, Kawano K. [A case of local recurrence developing thirty-nine years after mastectomy for breast cancer]. *Gan To Kagaku Ryoho*. 2014 Mar;41(3):357-9. Japanese. PMID: 24743283.
- Yin, W., Di, G., Zhou, L. et al. Time-varying pattern of recurrence risk for Chinese breast cancer patients. *Breast Cancer Res Treat* 114, 527–535 (2009). <https://doi.org/10.1007/s10549-008-0022-5>
- Demicheli R, Abbattista A, Miceli R, Valagussa P, Bonadonna G. Time distribution of the recurrence risk for breast cancer patients undergoing mastectomy: further support about the concept of tumor dormancy. *Breast Cancer Res Treat*. 1996;41(2):177-85. doi: 10.1007/BF01807163. PMID: 8944336.
- Sanpaolo P, Barbieri V, Genovesi D. Prognostic value of breast cancer subtypes on breast cancer specific survival, distant metastases and local relapse rates in conservatively managed early stage breast cancer: a retrospective clinical study. *Eur J Surg Oncol*. 2011 Oct;37(10):876-82. doi: 10.1016/j.ejso.2011.07.001. Epub 2011 Aug 6. PMID: 21824742.
- Xiao, L., Hu, X., Wang, S., Yong-Sheng, G., Yu, Q., Gao, S., Zhang, H., Wei, Y., Zhao, Q., & Yuan, S. H. (2016). A Case Report of Local Recurrence Developing 24 Years After Mastectomy for Breast Cancer Recurrence From Breast Cancer After 24 Years. *Medicine*, 95(22), e3807. <https://doi.org/10.1097/MD.0000000000003807>
- Prowell, T. M., & Davidson, N. E. (2004). What is the role of ovarian ablation in the management of primary and metastatic breast cancer today?. *The oncologist*, 9(5), 507–517. <https://doi.org/10.1634/theoncologist.9-5-507>
- Fourquet, A., Campana, F., Zafrani, B., Mosseri, V., Vielh, P., Durand, J. C., & Vilcoq, J. R. (1989). Prognostic factors of breast recurrence in the conservative management of early breast cancer: a 25-year follow-up. *International journal of radiation oncology, biology, physics*, 17(4), 719–725. [https://doi.org/10.1016/0360-3016\(89\)90057-6](https://doi.org/10.1016/0360-3016(89)90057-6)
- Eliyatkın, N., Yalçın, E., Zengel, B., Aktaş, S., & Vardar, E. (2015). Molecular Classification of Breast Carcinoma: From Traditional, Old-Fashioned Way to A New Age, and A New Way. *The journal of breast health*, 11(2), 59–66. <https://doi.org/10.5152/tjbh.2015.1669>