



Breast Cancer

Real-World Breast Cancer Patient Follow-Up Practices by Medical Oncologists in India—A Survey Report

Amol Patel¹ Vineet Govinda Gupta² Bhupesh Guleria³ Chandan K. Das⁴ Prashant Mehta⁵
Kaushik Mahadevapura Ramegowda⁶

¹Department of Medicine, Oncology Centre, Indian Naval Hospital Ship, Asvini, Colaba, Mumbai, Maharashtra, India

²Department of Medical Oncology, Artemis Hospitals, Gurgaon, Haryana, India

³Malignant Diseases Treatment Centre, Command Hospital (SC), Pune, Maharashtra, India

⁴Department of Medical Oncology, Post Graduate Institute of Medical Education & Research, Chandigarh, India

Address for correspondence Amol Patel, MD, DM, Department of Medicine, Oncology Centre, Indian Naval Hospital Ship, Asvini, Colaba, Mumbai, Maharashtra, 400005, India (e-mail: dr.amolpatel@hotmail.com).

⁵Department of Medical Oncology, Asian Institute of Medical Sciences, Faridabad, Haryana, India

⁶Department of Medical Oncology, Malignant Diseases Treatment Centre, Army Hospital Research & Referral, New Delhi, India

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Abstract



Amol Patel

Keywords

- ▶ Breast cancer
- ▶ Follow-up practices
- ▶ India
- ▶ Mammography
- ▶ Survey

Background In India, breast cancer patients' post-treatment follow-up practices are not known. We did this survey to understand how the breast cancer patients are followed-up and tried to explore the challenges associated with it.

Methods We conducted a survey-based study among Indian oncologists. Seven questions were framed pertaining to follow-up practices. Answers were provided in the form of multiple options. Google forms platform was used. Survey was circulated through social media apps and through mail. We sought suggestions and opinions to address the challenges from participants.

Results A total of 158 medical oncologists responded to this survey. 10% were not aware that only history and clinical examination are the scientific recommendations for follow-up. Ninety percent of the medical oncologists felt clinical breast examination as an uncomfortable practice for patients and physicians and 39% ordered a chest X-ray and an ultrasound abdomen. Annual mammogram was ordered by 83%, and blood investigations were recommended by 14% routinely. The majority (49.6%) felt that the absence of a female attendant, physician and patient factors were responsible for nonadherence to clinical breast examination. The DEXA scan was recommended by 84 (53%) medical oncologists regularly for patients on aromatase inhibitors, while 23 (14%) did not recommend it.

Conclusion There is a disparity between scientific recommendations and real-world follow-up practices. A large number of medical oncologists relied on chest X-ray and ultrasound abdomen. There is an unmet need to address this issue.

Introduction

Breast cancer is the most common cancer in India. In 2018, 162468 new cases of breast cancer were diagnosed, and the

outcomes of these patients are improving.¹ Careful follow-up after end of therapy is important for timely detection of recurrences or complications of therapy. Summary of

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Table 1 Summary of scientific recommendations for follow up of asymptomatic breast cancer patients post chemotherapy

	NCCN (2)	ESMO (3)	ASCO (4)
History and physical examination	1–4 times per year for 5 years (every 4 to 6 months) then yearly	Every 3 to 4 months for 2 years, 6–8 monthly for 3–5 years, annually thereafter. Interval of visits should be adapted to risk of relapse and patient's needs.	Every 3 to 6 months for first 3 years, 6–12 months for next 2 years, annually thereafter
Annual mammography	Recommended. Routine imaging of reconstructed breast is not recommended	Recommended. Ultrasound and MRI breasts can be considered if needed	Recommended. Post BCS after 1 year of initial mammogram and at least 6 months after radiation therapy
CXR and US-A	Not recommended	Not recommended	Not recommended
CBC, LFT, RFT	Not recommended	Not recommended	Not recommended
PET-CT	Not recommended	Not recommended	Not recommended
CA15–3	Not recommended	Not recommended	Not recommended
Bone mineral density monitoring	Recommended. At baseline and thereafter (On AI or chemotherapy induced amenorrhea)	Recommended	Recommended
Endometrial thickness monitoring for patients receiving Tamoxifen	Yes, gynecologic assessment every 12 months if uterus present	If symptoms suggestive of this complication, appropriate investigations should be advised	Regular gynecologic follow up is recommended
Assessment of physical and psychosocial and late effects of treatment	Recommended	Recommended	Recommended
Genetic counseling and screening	Recommended. Periodic screening and referral to genetic counseling as indicated	Recommended for high risk individuals ^a	Recommended as per US Preventive Services Task Force

Abbreviations: ASCO, American Society of Clinical Oncology; CBC, complete blood count; CXR, chest X-ray; ESMO, European Society of Medical Oncology; LFT, liver function test; NCCN, National Comprehensive Cancer Network; PET-CT, positron emission tomography-computed tomography; RFT, renal function tests; US-A, ultrasound abdomen.

^a strong family history of breast, ovarian, pancreatic and/or high-grade/metastatic prostate cancer; diagnosis of breast cancer before the age of 50 years, diagnosis of triple negative breast cancer before the age of 60 years, personal history of ovarian cancer or second breast cancer or male sex.

recommendations regarding the same by various scientific bodies are depicted in **Table 1**. The follow-up recommendations of breast cancer patients after completion of treatment are dependent on good history taking and clinical breast examination (CBE), every 3 to 4 months for initial 2 years and then every 6 months from third to fifth year and annually thereafter.² Annual mammography is recommended for all breast cancer patients.^{2–4} Bone health monitoring by dual-energy X-ray absorptiometry (DEXA) scan is recommended, and investigations like chest X-ray (CXR), computed tomography (CT) scan of chest and abdomen, ultrasound of abdomen (US-A) or positron emission tomography (PET)-CT scan are not recommended unless there are clinical symptoms and/or signs. The current evidence for follow-up and screening practices is not considered as strong evidence for recommendations.⁵ The randomized studies conducted in the 80s and 90s addressing the role of intensive investigations in breast cancer follow-up failed to demonstrate an overall survival benefit.^{6–8} Advances in metastatic breast cancer treatment have occurred after the conduct of these studies. The survival outcomes in metastatic breast cancer have increased phenomenally over 1990 to 2009.⁹ Detecting relapse early by investigations like CXR and US-A might lead to improved survival and/or quality of life. Many physicians and institutional practices routinely advocate for

CXR, US-A, and CA15–3 as a part of follow-up.^{10–12} There is a wide disparity between recommendations and adherence to them.

The literature has a lacuna on real-world practices and challenges associated with it in India. We conducted this survey-based study to understand how breast cancer patients are followed-up. We addressed the challenges related to nonadherence to scientific recommendations.

Methods

We conducted a survey-based study among Indian medical oncologists who are treating breast cancer patients. Survey form was made pertaining for follow-up practices after completion of treatment of breast cancer patients in curative setting (**Table 2**). Questions on history and physical examination, CBE, issues related to CBE, annual mammography, CXR and US-A, complete blood count (CBC), liver function tests (LFTs), renal function tests (RFTs), and bone health monitoring by DEXA scan were included. Questions were framed to understand the challenges in following-up of patients. Answers were provided in the form of multiple options. This survey was conducted from January 3 till July 31, 2020. The survey was circulated through social media apps and through mails. Google forms platform was used. As

Table 2 Survey form

Question 1.	Do you recommend yearly mammography for all patients?
Answer 1.	- Yes/no
Question 2.	Do you feel breast examination by clinician is not universally practiced?
Answer 2.	- Yes/no
Question 3.	What factors make breast examination is an uncomfortable practice?
Answer 3.	1. Patient factor (conservativeness and unwillingness)
	2. Clinician factor (fear of litigation)
	3. Absence of female attendant in OPD/clinics
	4. all of the above
	5. other reasons
Question 4.	Do you advise CXR and US-A for screening in asymptomatic breast cancer patient?
Answer 4.	Yes/No
Question 5.	Do you know that only history and clinical examination is recommended in routine follow up of breast cancer patients?
Answer 5.	Yes/No
Question 6.	How often you recommend CBC, LFT and RFT in routine follow-up of these patients?
Answer 6.	1. Occasionally
	2. Symptom directed
	3. Always
	4. other -
Question 7.	Do you recommend DEXA scan?
Answer 7.	Yes/No

Abbreviations: CBC, complete blood count; CXR, chest X-ray; DEXA, dual-energy X-ray absorptiometry; LFT, liver function test; RFT, renal function test; US-A. ultrasound abdomen.

survey was circulated through social media apps, responses from only medical oncologists were taken for analysis.

Results

A total of 158 medical oncologists participated out of 344. Majority (90%) of medical oncologists were aware of the universal recommendation of history and physical examination in follow-up of breast cancer patients postchemotherapy.

CBC, LFTs, and RFTs were ordered by 14% during every visit and 68% ordered these investigations only as per symptoms (→ Fig. 1).

A total of 155 medical oncologists responded on factors relating to CBE as an uncomfortable practice (→ Fig. 2). 83% (n = 130) ordered the annual mammography for their patients (→ Fig. 3). Only 7% felt that the CBE can be easily practiced in their workplace without any limitations.

Absence of female attendants in the clinic was the only factor of concern for 12.2% (n = 19) of medical oncologists. Physician’s reluctance, fear of litigation by female patient, and time constraints were the factors reported by 2%, 2%, and 1%, respectively. Patient factor of conservativeness and unwillingness was mentioned by 32 (20%) of the medical oncologists. Majority (49.6%) felt that the absence of a female attendant, physician and patient factors are all responsible for less practice of CBE.

CXR and US-A were advised by 39% of medical oncologists (→ Fig. 4).

The DEXA scan was recommended by 84 (53%) medical oncologists regularly for patients on aromatase inhibitors, while 23 (14%) did not recommend the DEXA scan. Only three asked for DEXA scan as per symptoms. Others did not answer this question.

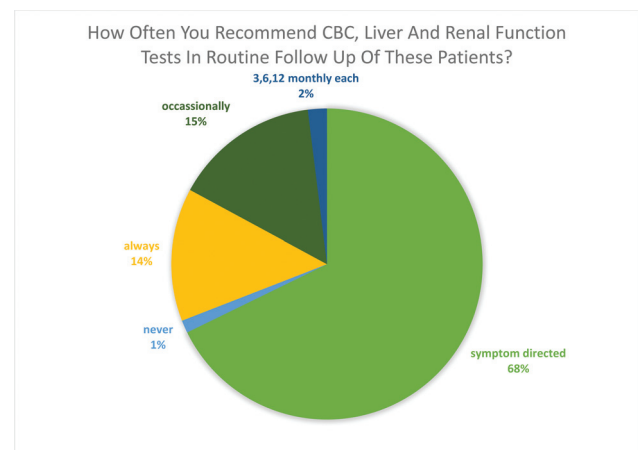


Fig. 1 Various patterns of blood investigations. CBC, complete blood count.

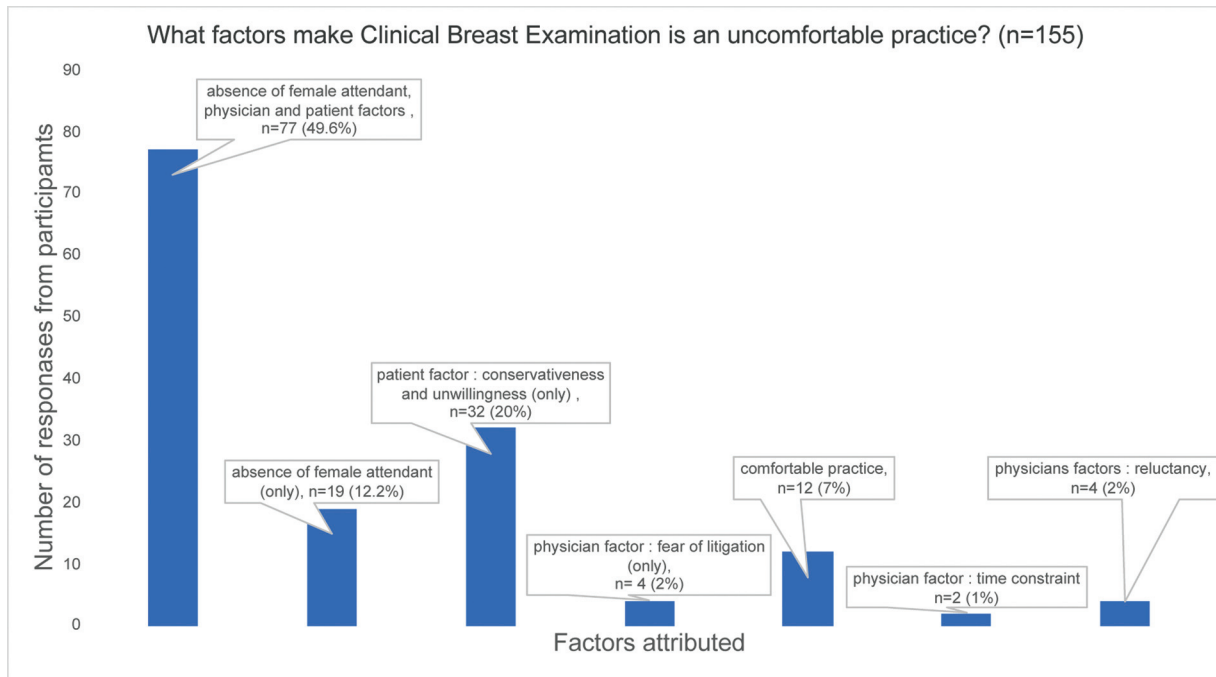


Fig. 2 Factors making clinical breast examination an uncomfortable practice (five other responses—logistics, female doctor preference, lack of awareness).

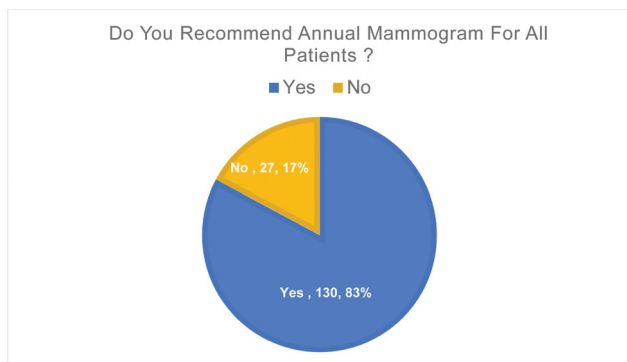


Fig. 3 Percentage of annual mammogram recommendation by Indian medical oncologists (n = 157).

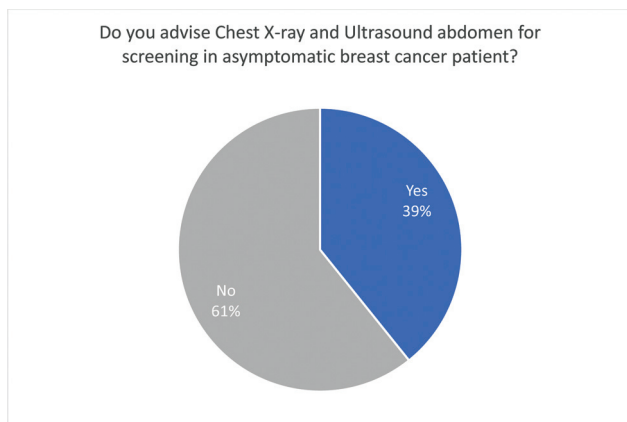


Fig. 4 Use of chest X-ray (CXR) and ultrasound abdomen (US-A) asymptomatic breast cancer follow-up.

Discussion

In a systematic literature review by de Guzman et al, the median adherence to follow-up recommendations of breast cancer patients in eight European countries was 74% (range 0–84%).¹⁰ Similarly, in the survey conducted by Foster et al on guideline adherence in American medical oncologists, 82% ordered annual mammogram, and 22% asked for CA15–3 and chest imaging every 6 months for 5 years by 16%.¹¹ In our survey, 83% ordered the annual mammogram, and CXR and US-A were ordered by 39% of medical oncologists, which is very high in comparison to American medical oncologists.

In India, sociocultural issues introduce limitations in conducting CBE. Only 7% (n=12) felt CBE as a comfortable practice. This fact was not reported before. The predominant patient factors were conservativeness and unwillingness addressed by 20% of medical oncologists; however, this finding is limited by absence of patient's view on this. Future studies should address this issue. The medical history taking and clinical examination is considered by many to be a declining art.¹³ The backbone of a follow-up is clinical examination; an inadequate clinical examination may miss important findings, leading to delay in recognition of relapse. In many parts of the world, the ability to perform a proper CBE might be limited by sociocultural factors and economics (e.g., availability of adequate staff, examination rooms with privacy).

Physician factors can be overcome by increasing awareness for benefits of these essential parts of patient care, which are taught during residency.¹⁴ One of the reasons emphasized for nonadherence to CBE was absence of a female attendant (12%). Such barriers can be overcome by providing the female attendants during breast cancer clinic hours, although it may not be possible in every clinic.

Ten percent of medical oncologists were not aware or did not follow the existing guidelines of follow-up of breast cancer patients, which is not reported before. The practice of DEXA scan recommendation also deviated from the scientific recommendations.¹⁵ Only 53% percent have advised for regular bone health monitoring.

Although the existing guidelines are based on older studies, cost is saved if guidelines are adhered, and unnecessary investigations will not be prescribed.¹¹ These investigations might also lead to unnecessary invasive procedures and fear of uncertainty and increase stress for the patients. However, there is a missing link of newer studies between recommendations based on older studies and real-world practices and their challenges.

Phenomenal progress has been made in treatment of breast cancer in the last four decades, and this was achieved because of understanding of the disease and treatment of breast cancer as three subsets (hormone positive, Her2neu positive and triple negative).¹⁶ The guidelines of follow-up are based on old data and not on robust scientific data.^{5,10} There is a need to readdress this issue of follow-up of breast cancer patients, as they are not universally practiced, and newer therapies are available for three subtypes of breast cancer. It will be prudent to start follow-up study, according to subtypes prospectively, as new treatments might lead to change in outcomes of these patients. Indian oncology societies should come forward and formulate India specific guidelines.

Strength of the Study

For the first time, such a survey was conducted that brought out the issues inherent to follow-up practices of breast cancer patients after completion of chemotherapy. As the data on follow-up practice is very old, this survey brings out the importance in this important field of oncology practice, which has wide implications. Such topics are never discussed in pharma-driven medical oncology conferences.

Limitations of the Study

The denominator of respondents might be different, as survey was circulated through multiple social media apps. However, number of respondents was large. Only medical oncologists were surveyed. Surgical and radiation oncologists were not included in this study. Survey lacked the questions of demographics of respondents like age, sex, and region of practice. Pre- and postmenopausal patients' category was not considered for use of DEXA scan. The practice domain of medical oncologists is not taken into consideration like academic versus nonacademic or private versus government hospitals.

Conclusion

This survey-based study highlighted the challenges for follow-up of breast cancer patients in India. Scientific recommendations are not universally followed. CXR and US-A are recommended by 39% of the medical oncologists, and 90%

felt CBE as an uncomfortable practice for patients and physicians. Annual mammogram is ordered by 83% and blood investigations were recommended by 14% routinely.

Conflict of Interest

The authors declare no conflicts of interest.

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