



Breast Cancer Survivorship



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Abstract

After active treatment, breast cancer survival care shifts to a monitoring and health maintenance model. The essential components of breast cancer survival are covered in this review article, including cancer monitoring, care of side effects of therapy, adopting a healthy lifestyle, and receiving psychosocial assistance.

Keywords: Breast Cancer, Side effects, Survivorship, Surveillance; Metastatic Survey

Abbreviations: ASCO: American Cancer Society/American Society of Clinical Oncology; NCCN: National Comprehensive Cancer Network; SCP: Survivorship Care Plan; irAEs: immune-related Adverse Events; TSH: Thyroid-Stimulating Hormone; free T4: free Thyroxine; ACTH: Adrenocorticotrophic Hormone

Breast Cancer Survivorship

For some people, being a breast cancer survivor means different things. Breast cancer survival, by definition, starts with diagnosis, lasts through treatment, and continues for the remainder of existence [1]. Following surgical resection, which basically rids the body of cancer, a patient is deemed "cancer free." Adjuvant radiotherapy and systemic therapy are intended to maintain this status for the duration of the patient's life. At this phase, the focus of breast cancer therapy shifts from active treatment to health maintenance and surveillance. Patients with breast cancer who get a recurrence or metastatic illness and continue to actively manage their condition are also regarded as survivors [2]. They do, however, concentrate on tracking the advancement of the disease while receiving active therapy and looking for signs of health maintenance, which are covered in more detail below. Breast cancer survival involves several crucial elements, such as monitoring the disease, controlling side effects from therapy, adopting a healthy lifestyle, and receiving psychological support [3]. Important extras included in a survivorship visit are screening for good eating, a healthy body weight, exercise, mood, sleep, sexual health, pain or swelling, cognitive impairment, social support, and work/employment/financial stability.

It is crucial for breast cancer doctors to change the focus of patient visits from treating breast cancer to survivorship

screening. This involves creating a plan for recurrence screening, monitoring medication adherence, counseling patients on disease signs and symptoms, educating patients about healthy lifestyle choices, and screening for psychosocial needs. All the while, the patients should be given hope and a sense of renewal and longevity [4]. The American Cancer Society/American Society of Clinical Oncology (ASCO) Breast Cancer Survivorship Care recommendations and the National Comprehensive Cancer Network (NCCN) recommendations are the two primary sets of consensus guidelines for breast cancer survivorship. The important components of breast cancer survivorship that are essential to maximizing the care given by the breast team throughout the survivorship context are highlighted in this review paper (Henry and Mackey).

According to national standards for breast cancer survival, visits with survivors should take place every three to four months for the first two years following treatment completion, then every six months for the next three, and once a year after the fifth year [5]. A surgeon, primary care physician, or medical oncologist who is prescribing adjuvant therapy might be assigned the responsibility of providing survivorship care in order to prevent duplication of services. The guidelines for follow-up visits are comprehensive and grounded in the whole breast cancer patient

population, rather than disease biology or stage. For instance, it is well known that young patients with triple-negative cancer typically present with metastatic recurrence and have the highest chance of recurrence within 5 years after diagnosis.⁴ On the other hand, malignancies that are positive for estrogen may recur more than ten years after the original diagnosis. Patients with estrogen-positive cancer had a cumulative incidence of late recurrence between 10 and 32 years following their first diagnosis, according to a meta-analysis. This incidence was 16.6%.⁴ Increased recurrence was linked to tumor sizes more than 2 cm, illness that was positive for lymph nodes, and tumors that were positive for estrogen receptors [6].

Breast Cancer Survivorship Care Plan

“From Cancer Patient to Cancer Survivor: Lost in Transition,” a handbook on cancer survivorship, was released by the Institute of Medicine in 2005. This handbook established the notion that cancer patients should get a Survivorship Care Plan (SCP) with the conclusion of their active cancer treatment, and it became a cornerstone in the way the medical community treated cancer survivors as patients managing a chronic illness [7]. An SCP is a detailed record that includes information on the biology of the cancer, the stage of the tumor, and the course of treatment—which may include radiation, systemic therapy, surgery, and genetic testing—for the patient. Furthermore, a SCP may offer guidance on the adverse effects of therapy as well as suggestions for a healthy lifestyle, screening, and surveillance. In order for other treating physicians to examine the treatment plan, this treatment summary is discussed with the patient and also included in the patient’s medical record.

A quality control method for the National certification Program of Breast Centers certification was to ensure that patients received this document within six months after finishing their treatment [8]. Studies revealed that while the SCP was a helpful tool, it did not have the same impact on patient-reported results. According to a meta-analysis, the primary reason why SCP was unsuccessful was because 67% of patients said they had trouble remembering or comprehending the material. Revised NAPBC Standards 2024 changed the SCP’s status from mandatory to recommended. Programs must now adopt a more active patient involvement survivorship regimen at follow-up survivorship sessions, when patients discuss and document social and behavioral health difficulties as well as persisting symptoms. This is mandated by new NAPBC criteria. Similarly, the ASCO survivorship guidelines highlight five aspects of follow-up care: monitoring for recurrence of breast cancer, screening for secondary cancer development, managing the physical and psychosocial side effects of treatment, encouraging a healthy lifestyle, and care coordination [9].

Breast Cancer Surveillance

Screening for a local, regional, or metastatic recurrence of breast cancer is one of the most crucial aspects of a survivorship

visit. Patients have to receive education on how to conduct a self-breast assessment, comprehend changes in skin tone and tissue texture, and value their natural scar or surgically repaired outcomes. They should be given instructions on when to contact to be seen for evaluation as well as information on how to spot a potential local recurrence [10].

For the first five years after being diagnosed with breast cancer, patients should get a clinical breast exam every six months from their doctor. Screening for a local, regional, or metastatic recurrence of breast cancer is one of the most crucial aspects of a survivorship visit. Patients have to receive education on how to conduct a self-breast assessment, comprehend changes in skin tone and tissue texture, and value their natural scar or surgically repaired outcomes. They must be given instructions on when to make an appointment for an assessment as well as knowledge of how to spot a potential local recurrence. Every six months, patients with breast cancer should get a clinical breast exam. Screening for a local, regional, or metastatic recurrence of breast cancer is one of the most crucial aspects of a survivorship visit [11].

Patients have to receive education on how to conduct a self-breast assessment, comprehend changes in skin tone and tissue texture, and value their natural scar or surgically repaired outcomes. They must be provided with instructions on when to make an appointment for an assessment as well as information on how to spot a potential local recurrence. For the first five years after being diagnosed with breast cancer, patients should have a clinical breast exam performed every six months by their physician, and then once a year after that [12]. Assessing for the existence of adenopathy, lymphedema, or reduced range of motion in the upper extremities, as well as noting any new breast masses and changes to the skin and surgical scars, should be the main goals of a clinical breast exam [13]. Healthcare professionals should ask patients about their quality of life and body image in addition to evaluating them for any resulting breast asymmetry. Referrals to plastic/reconstructive surgeons are recommended for patients with concerns regarding acquired surgical deformities. It is recommended that women who have a mastectomy and implant-based reconstruction be evaluated for implant integrity, including the possibility of capsule contracture, leak, or rupture, which can happen over time. Patients should also be advised of the possibility of developing BALCL, or breast implant-associated anaplastic large-cell lymphoma, which is uncommon but can happen [14].

Ordinary Screening and Imagination

Annual digital mammography screening for breast cancer is advised by the NCCN and ASCO recommendations. Research indicates that six-month interval screening mammograms are not very beneficial and should not be done on a regular basis. When undergoing radiation therapy for breast-conserving surgery, the first mammography shouldn’t be done any earlier than six months

after the radiation treatment is over [15]. For patients who have had breast-conserving surgery, routine breast MRI screening is not advised. However, yearly screening MRIs may be taken into consideration for young women with dense breast tissue who have been diagnosed with breast cancer before the age of 50. Patients with germline mutations and the histology of lobular carcinoma may also be screened using MRI. Routine screening imaging has no place for patients in the post-mastectomy state, whether or not they have had autologous reconstruction or implants. A targeted ultrasound and diagnostic mammography should be ordered for any palpable region of concern in a patient who has had breast-conserving surgery [16]. The best place to start for women who have had mastectomy is with an ultrasound for the affected area. A skin punch biopsy should be performed on any suspicious skin, scar, or nipple lesion.

Metastatic Survey

In the absence of a known metastatic illness, routine screening chest X-rays, CT scans, bone scans, or PET scans are not advised by the Metastatic Survey Guidelines. Tests for liver function or tumor markers are examples of standard lab work that is not advised since there was no documented difference in survival between individuals who had routine screening testing and those who did not. Rather, it is advised to screen patients for symptoms including a cough that has persisted for more than two weeks, ongoing bone pain, any problems with altered gait or increased headaches, stomach discomfort, or changes in bowel habits, and to request further testing in response to these symptoms. If any new or worrisome symptoms or indicators are noticed, they should be tested appropriately to rule out the possibility of metastatic illness developing [17].

Chronic Surgery Pain

Up to 32% of women may experience chronic discomfort following surgery. It is possible for neuropathy, lymphedema, bone pain, tingling, and scarring to appear. Scar massage instruction may be aided by a physical or occupational therapy referral. There have been varied reports of effectiveness when using nonsteroidal anti-inflammatory drugs (both oral and topical), as well as acetylsalicylic acid, gabapentin, and antidepressants. It has also been demonstrated that acupuncture may be used as a non-medical alternative to pain medication for people who desire it [18].

Axillary Web

It has been estimated that 6% of patients who underwent axillary surgery and up to 78% of patients who underwent axillary lymph node dissection experienced axillary web syndrome.

Compared to fat women, slender women experience it more frequently. Axillary web syndrome, also known as axillary cording, is caused by scar tissue around sclerosed veins and lymphatics with surrounding fibrosis. It often manifests during

the second postoperative week. Shoulder mobility is reduced as a consequence of this fibrosis. The axilla, or higher inner part of the extremity that extends occasionally down to the wrist along the path of the palpably tight chord, is where the pain initially appears. Patients should rest easy knowing that axillary web syndrome is self-limited, nonprogressive, and often goes away in three months. Stretching exercises, massage treatment, and physiotherapy help hasten recovery and lessen discomfort [19].

Lymphedema

It's time to debunk the old illusions around blood pressure cuffs, exercise, flying in an airplane, and not needing an IV. It is reassuring to patients and physicians that these activities are safe for their injured arm. To reduce the risk of lymphedema, patients should be encouraged to continue strength training and range of motion in their upper extremities. When the lymphatic system is disrupted by radiation therapy to the axilla or surgery to remove lymph nodes, lymphedema develops.

According to studies, lymphedema develops in 3%-8% of patients who undergo sentinel lymph node surgery, 11% who get radiation therapy, and 23% of patients who undergo axillary lymph node dissection [20]. In 75% of patients, lymphedema usually manifests within the first three years of therapy, however it can appear at any point after that. Subjective sensations such as fullness, soreness, or pain in the afflicted hand or arm might indicate lymphedema. Measured changes in circumferential arm measures of more than 10% from baseline or changes of 6.5 in bioimpedance measurements are considered objective indications of lymphedema.

According to NCCN guidelines, it's critical to regularly screen for lymphedema in survivorship by teaching patients about the symptoms and indicators of early-stage lymphedema, administering screening questionnaires during follow-up appointments, and referring them to a physical therapy or occupational therapy program at the earliest indication of lymphedema. Patients should have baseline measures of their circumferential arms or bioimpedance spectroscopic measurements to check for lymphedema. After the initial three years, follow-up measurements should be taken every three to four months, then every six months, and finally once a year. Patients with lymphedema should be instructed to use compression garments for four weeks and then reevaluate; if the condition worsens, a referral for thorough decongestive treatment is advocated [21].

Effect of Radiation Side

Patients should get instructions on how to take care of their skin and breasts following radiation therapy since the local effects of radiation can linger for up to a year after treatment is finished and can result in scarring, hyperpigmentation, and fibrosis. Given that radiation therapy has been shown to hasten capsule development

in breast implants, regular breast massage is advised. Patients should be sent to plastic/reconstructive surgery to consider the possibility of a vascularized tissue flap repair if they have capsule contracture and skin toxicity from radiation. Treatment for breast cancer with radiation can result in pneumonitis, fibrosis, and pulmonary damage. Pneumonitis symptoms include low-grade fever, dry, nonproductive cough, and dyspnea, which should be looked for in patients [22]. A corticosteroid taper can help reduce inflammation and alleviate symptoms, while a CT scan of the chest can offer a conclusive diagnosis [23]. Additionally, radiation can result in pericarditis, and it carries a slight risk of cardiovascular disease development 10-15 years following treatment. With the use of intensity-modulated radiotherapy treatments, the incidence of these adverse effects has decreased in modern radiation. Patients with conditions like high blood pressure and cholesterol should have them well treated to help stop cardiovascular events from happening [24].

Angiosarcoma

The formation of breast angiosarcoma is uncommon, with a frequency of less than 1%, although it can happen if a patient has had radiation therapy as part of their treatment for breast cancer [25]. Usually, angiosarcoma begins as a violet-colored, painless lesion or bruise in the breast that was exposed to radiation in the past. Although studies have shown that angiosarcoma can develop at any point following radiation therapy, it often manifests itself ten years after radiation therapy. Since an underlying abnormality is frequently not visible on imaging, a skin punch biopsy of the abnormal or worrying skin region should be carried out in order to enable prompt treatment of this secondary malignancy [26].

Immunotherapy Side Effects

Pembrolizumab and other immune checkpoint inhibitors have known immune-related adverse events (irAEs), including skin rashes, hepatitis, diabetes, pancreatitis, pneumonitis, nephritis, thyroid dysfunction, and adrenal insufficiency. Patients should be screened for symptoms that include, but are not limited to, fatigue, headache, or abdominal pain [27]. It is essential to educate patients and providers that irAEs have some general timing patterns but can occur anytime during treatment and after completion; therefore, a high index of suspicion is required. Recommendations state that all patients on immunotherapy should receive laboratory testing before starting treatment for thyroid function (thyroid-stimulating hormone [TSH] and free thyroxine [free T4]), adrenal function (adrenocorticotropic hormone [ACTH] and cortisol), and glycemic control (glucose and glycated hemoglobin [HbA1c]) [28].

Before each cycle, TSH and free T4 and a complete metabolic panel should be repeated. Routine monitoring with ACTH and cortisol levels should be performed after completion of therapy monthly for 6 months, then every 3 months, followed by every

6 months for a total of 1 year. Management of irAEs typically requires a consultation to an appropriate specialist depending on the body system affected (such as endocrinologist or hepatologist). Endocrinopathies (e.g., adrenal insufficiency and hypothyroidism) are long-term consequences of immunotherapy and require lifelong hormonal replacement [29].

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