

# Physiotherapy Rehabilitation in Patients with Breast Cancer - A Case Report

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## ABSTRACT

Breast cancer has been the most common cancer in the United Kingdom since 1997, accounting for 31% of all new cancer diagnoses in women. The rate of new diagnoses among people over 40 years old rises fast, from under 1 per 100,000 in young adults to well over 400 per 100,000 in those over 85 years old (1). Breast cancer survival rates are improving as a result of breakthroughs in diagnosis and therapy, and cancer survivorship has emerged as a major focus in the cancer care continuum. (2). Cancer rehabilitation is defined as the process of aiding a patient in attaining the best level of physical, psychological, social, sexual, vocational, recreational, and economic functioning possible within the restrictions of the disease and therapy. (2). Pain, lymphedema, secondary malignancies, and sexual dysfunction are among the possible long-term physical repercussions of cancer (2). Fear and anxiety about return of cancer, sadness, and emotions of uncertainty and loneliness are all possible psychological consequences. (2). Changes in interpersonal connections, financial and health insurance concerns and difficulty returning to work or seeking employment owing to impairment are all examples of social impacts (2). Even though recent advancements in therapy have increased survival rates, they are also associated with considerable adverse effects (3). Breast cancer survival rates have increased as a result of breakthroughs in early detection procedures, followed by more tailored and/or aggressive therapy (3). Although breast cancer patients' rehabilitation has become a priority in recent years, additional research on the most effective sorts of therapies is still needed. (3).

**Keywords:** Breast cancer, Patient care, Psychosocial issues, quality of life, rehabilitation

## INTRODUCTION

Breast cancer survival rates are improving as a result of advances in diagnosis and therapy, and cancer survivorship has become a top concern in the cancer care continuum. (2). Breast cancer is the most common type of cancer in women worldwide (2). In 2007, there were 2761 new cases of breast cancer diagnosed in Norway (3). Breast cancer survival rates have grown as a result of advancements in early detection technologies, followed by more customized and/or aggressive

therapies (3). More patients are long-term survivors, enduring the disease's and treatment's long-term adverse effects (3). Pain and upper limb joint dysfunction following mammary cancer therapy is recognized as the most common side effects of mammary carcinoma surgery in the United States, with a prevalence range ranging between 12% and 51% for pain and 1.5 percent to 50% for joint dysfunction (4). Approximately 89 percent of women with breast cancer live for at least five years after treatment, despite the fact that side effects

can linger for months or years after surgery, with pain ranging from 12 percent to 51 percent and joint dysfunction ranging from 1.5 percent to 50 percent. (4). Musculoskeletal nociceptive pain is caused by the fact that breast cancer treatments directly influence the neuromusculoskeletal tissues of one or more limb locations, resulting in shoulder pain, joint restriction, and hypothenar joint dysfunction (4). Cancer-related neuropathic pain, drug-induced neuropathic pain, and cancer-associated neuropathic pain are the three types of neuropathic pain syndromes. (1). Postmastectomy pain syndrome is a well-known example of neuropathic pain caused by cancer treatment. (4). Finally, chronic pain might occur in up to 50% of patients six months after surgery (4). Surgery is the cornerstone of primary breast cancer treatment. (5). Morbidity is still a clinical issue, despite the use of more conservative surgical procedures. (5). Arm morbidity during primary breast cancer treatment is well documented in the literature, with symptoms including edoema, pain, restricted shoulder movement, and sensory and motor dysfunction. (6). Mastectomy refers to the surgical removal of partial or entire breast tissue, surrounding tissues, and neighboring lymph nodes (6). The five types of mastectomy include lumpectomy, basic mastectomy, radical mastectomy, extended radical mastectomy, and modified radical mastectomy. (6). The whole breast tissue and lymph nodes are removed during a modified radical mastectomy (6). There is no removal of pectoral muscles from beneath the breast. The most common type of incision is an oblique elliptical incision oriented toward the axilla (6). Shoulder pain, incapacity, and reduced movement are all common complications in post-mastectomy patients. To reduce human suffering and financial expenses, it is vital to raise awareness regarding the prevention, early detection, and timely therapy of shoulder difficulties in post-mastectomy patients(7). After a modified radical mastectomy, an early-onset rehabilitation

program improves shoulder mobility and functional ability without producing complications in the postoperative phase (8). Breast loss produces soft tissue asymmetry and mass distribution across the chest wall, affecting upper limb movements and resulting in symptoms of the trunk or shoulder (9). As a result, scapular and shoulder kinematics in post-mastectomy patients are frequently altered, causing these patients to struggle with daily activities (9).

## **PATIENT INFORMATION**

A 45 years old female housewife, resident of Nagpur came with a chief complaint of:

- Lump in the right breast for 1 month.

The patient was alright 1 month back when she noticed a lump in the right which was insidious in onset and progressive in size.

- No h/o trauma to the breast
- No h/o pain associated with swelling.
- No h/o lump in another breast/axilla or swelling in the neck.
- No H/o Nipple discharge / retraction / deviation.
- No h/o ulcer over the breast.
- No h/o any hormonal therapy.
- No h/o fever.
- No h/o cough.
- No history suggestive of metastasis to bone/lung/liver/brain like backache, bone pain, convulsion, headache, or jaundice.

### **History:**

- No previous history of a lump in the breast.
- Not a k/c/o DM/TB/BA/HTN.

### **Family history:**

- No history of any cancer especially BRCA related cancer in the family.

### **Personal history:**

- Patient takes a mixed Indian diet.
- Normal sleeping pattern with normal bowel/bladder habit.
- No h/o loss of appetite.
- No h/o weight loss.

- No h/o alcohol consumption or any other substance abuse.

**Menstrual history:**

- Patient experienced menarche at 13 years of age & has had regular cycles of normal duration.

**Obstetrical history:**

- P3L3
- Age of 1<sup>st</sup> pregnancy-21 years
- One male child & two female children were delivered by normal vaginal delivery.
- Breastfed child for one and half years each.

**Environmental history:** The patient lives in a house with Indian style toilet.

**Socio-economic status:** According to the Modified Kuppaswamy Scale patient lies under the lower class.

**CLINICAL FINDINGS:**

**General examination:**

Built: Mesomorph  
Posture: Forward head posture, Rounded shoulder  
Height: 180 cm  
Weight: 65kg  
BMI: 20.1kg/m<sup>2</sup>  
Temperature: The patient was afebrile  
Pulse rate: 82beats/min  
SPO<sub>2</sub>: 100%  
BP: 110/80 mmHg  
RR: 21breaths/min

**GENERAL EXAMINATION:**

- Patient was examined in well little room after taking informed consent.
- Patient was comfortable, oriented with time, place & person.
- Pulse - 82/min regular in rhythm, good in volume, normal in character.
- Blood pressure- 110/70mmHg in right arm supine position.
- Respiratory rate -18/min, regular, thoracoabdominal.
- No Pallor/Icterus/Cyanosis/Edema/Generalized Lymphadenopathy.

**Systemic examination:**

- Cardiovascular system-S1S2 normal. No murmur was heard.
- CNS-Higher center functions normal, cranial nerves function normally.
- Respiratory system-Air entry bilaterally equal. No adventitious sound was heard.
- Per Abdomen-Soft, nontender. No organomegaly. No palpable lump. No signs of ascites. Per rectal-Normal, No mass palpable.

**Examination of breast and axilla:**

The patient was examined in sitting, supine, and leaning forward position.

**Inspection:**

The left breast and axilla appear normal.

**Right breast:**

- Breast is symmetrical and at the same level as the left breast.
- Normal in size & shape.
- Nipple areola complex in normal position.
- no nipple retraction/ discharge/ deviation/ ulcer.
- no cracks/ulcer/eczema over areola.
- no scars/engorged veins.
- no skin changes over the breast.
- no edema in the arm.

Both breasts fell equally on the forwarding bending position.

**Palpation:**

Left breast & axilla- Normal.

**Right breast:**

- Temperature in all quadrants is normal.
- No tenderness.
- Lump of size 4 x 3cm present in upper outer quadrant of the right breast.
- Ovoid.
- Hard inconsistency.
- Smooth surface, well defined with irregular margins.
- Fixed to breast tissue but not fixed to the skin.

-Not fixed to pectoral fascia and muscle, chest wall.

### **Regional lymph node examination-**

-no palpable axillary or supraclavicular lymph node.

-No infraclavicular fullness.

### **THERAPEUTIC INTERVENTION:**

Patients with breast cancer got physiotherapy to alleviate lymphedema and improve shoulder motion. The patient was informed about the condition's signs and symptoms, prevention procedures, a home exercise routine, shoulder ROM improvement, and pain reduction in the near term. Long-term goals included maintaining shoulder ROM in all directions, allowing the patient to utilize the limb functionally, mobilizing scar tissue, improving body posture, and pain alleviation. On the second postoperative day, forearm exercises and isometric hands were started. The exercises included active flexion, abduction, active assistive, and internal and external rotation ROM movements of the shoulder joint on the third and fourth days. Passive stretching activities were performed throughout the next three days. In prevention, treatment, and rehabilitation, physiotherapy employs both passive and active stimulation. It comprises a comprehensive assessment of the musculoskeletal system, as well as the application of knowledge, stimuli, and skills. With complete hand contact and touch grades ranging from 2 to 3, gentle circular mobilisation of the detected tissue tightness on the chest wall is performed. To extend the tight cords, stretch the longitudinal tissue using the patient's arm in available abduction. Following the removal of the drain, the patients in the treatment community participated in 15 physiotherapy sessions, which included wall climbing, pendulum, overhead lifting pulley, horizontal abduction, wall-wall, dorsal strengthening, position, and levator-scapula streaming exercises. Arm mobilization occurs on the first or second postoperative day. During each therapy session, a home

program of gentle extension and self-mobilization was taught and revised. Patients with breast cancer face existential, emotional, social, and psychological challenges that are specific to their situation. The treatment intended to improve and restore tissue mobility while also lowering soft tissue gliding constraints. Resistance training commenced following the completion of the maximum range of motion. Improvements have been noted in the commencement of active assisted to active movements, as well as in the independence of daily living activities with minimum support or supervision.

### **DISCUSSION**

Shoulder joint ROM restriction, functional capacity decline, and lymphedema are the most prevalent postoperative consequences of MRM (9). The timing of the rehabilitation programme following breast surgery is debatable (8). Furthermore, past studies on the benefits of various types of exercises with early or delayed commencement have yielded contradictory results in terms of seroma frequency, wound exudates, and shoulder mobility (5). Postoperative exercises to keep the arm moving are thought to enhance the quantity of lymphoid fluid produced following surgery (9). This physical and psychological intervention would aid in improving the patient's quality of life (5). A multidisciplinary approach is required to achieve a positive outcome and enhanced quality of life (5).

### **CONCLUSION**

The above studies suggest that early rehabilitation of physiotherapy contributed to the improvement of the patient's functional objectives, which are a significant understanding of a good recovery.

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**Informed Consent:** Proper consent was taken from the patient's son for writing the case report.

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