

Management of Breast Cancer (BC): Postoperative Pain Management, Role of Multidisciplinary Team in BC Care, and Shared Decision-Making

Clinical importance of patient profile, access to BC treatment, and adverse events due to BC therapies



Pain management¹

Chronic or persistent pain is common following early-stage BC treatment and is typically a result of cancer therapy, not the cancer itself

Risk factors for developing chronic pain in BC¹

The prevalence and severity of post-treatment pain depends on:

- Cancer subtype
- Sequence of administered therapies
- Demographic characteristics such as age, co-morbidities, and overall health status
- Duration since completion of therapy

Radiotherapy (RT)

- Can cause inflammation of tissue leading to pain in treated areas
- Duration since surgery and the presence of ongoing post-surgical pain influence RT-related pain

Endocrine therapy (ET)

- ETs utilised in BC treatment such as aromatase inhibitors can cause joint and muscle pain

Psychological factors

- Emotional distress, depression, and anxiety can contribute to perceived notions of pain

Surgery

- Type of surgery
 - Mastectomy
 - Breast conservation
 - Oncoplastic techniques
 - Breast tissue reconstruction
 - Axilla surgery
- Damage to nerve during axillary node clearance or scar formation

Lymphoedema

- Swelling in the arm or chest area
- Common after the removal of lymph node or RT, leading to pain, discomfort, and diminished quality of life

Chemotherapy

- Peripheral neuropathy due to drugs like taxanes can cause pain, particularly in hands and feet

Pre-existing pain

- Patients with pre-existing chronic pain are more susceptible to post-surgical pain

Management of post-operative pain^{1,2}

Surgical interventions increase the chances of post-operative pain in patients with BC

Annual report of peri-operative quality improvement programme (2018–2019)

- Post-operative pain within 24 hours of surgery in patients with BC
- 48% – moderate pain
- 19.8% – severe pain

Chronic post-surgical pain (CPSP)

- Persistent pain lasting for a minimum of three months after the surgery, often with neuropathic pain
- CPSP can be caused by inadequate management of acute post-surgical pain
- Incidence of CPSP varies with types of surgical procedures
- CPSP can significantly impact the quality of life in patients with BC

Combined modalities to effectively manage post-operative pain and reduce the risk of CPSP

- Risk assessment and minimisation
- Early diagnosis
- Nonpharmacologic approaches
 - Physical therapy
 - Music therapy
 - Foot massage
- Pharmacologic approaches
 - NSAIDs (diclofenac or ibuprofen for pain relief)
- Regional anesthesia
 - Extended paravertebral block
 - Thoracic epidural catheter
 - Extended analgesia

Web-based interventions (WBIs) for the management of pain¹

WBIs are delivered through web-based platforms

Advantages of WBIs

- Provide support and knowledge for the self-management of pain
- Deliver psychological support and interactions with healthcare providers (HCPs)
- Promote behavioural changes and improve mental health

In a pilot study involving patients with BC and CPSP, a personalised eHealth self-management intervention system showed significant improvement in pain-related scores, quality of life, and physical functioning

Multidisciplinary teams (MDTs) in cancer care

MDT refers to a team of HCPs with varied clinical expertise, working together to make decisions regarding the recommended clinical pathway for an individual patient with BC

Role of MDTs in cancer care³



Cancer care requires collaboration between HCPs with diverse expertise to improve treatment outcomes

An MDT approach in cancer care was first described in 1975 and implemented more broadly in 1997

Advancements in technology and personalised treatment plans depending on the cancer type and the stage of disease have increased the need for MDT in cancer care

Advantages of MDTs in cancer care

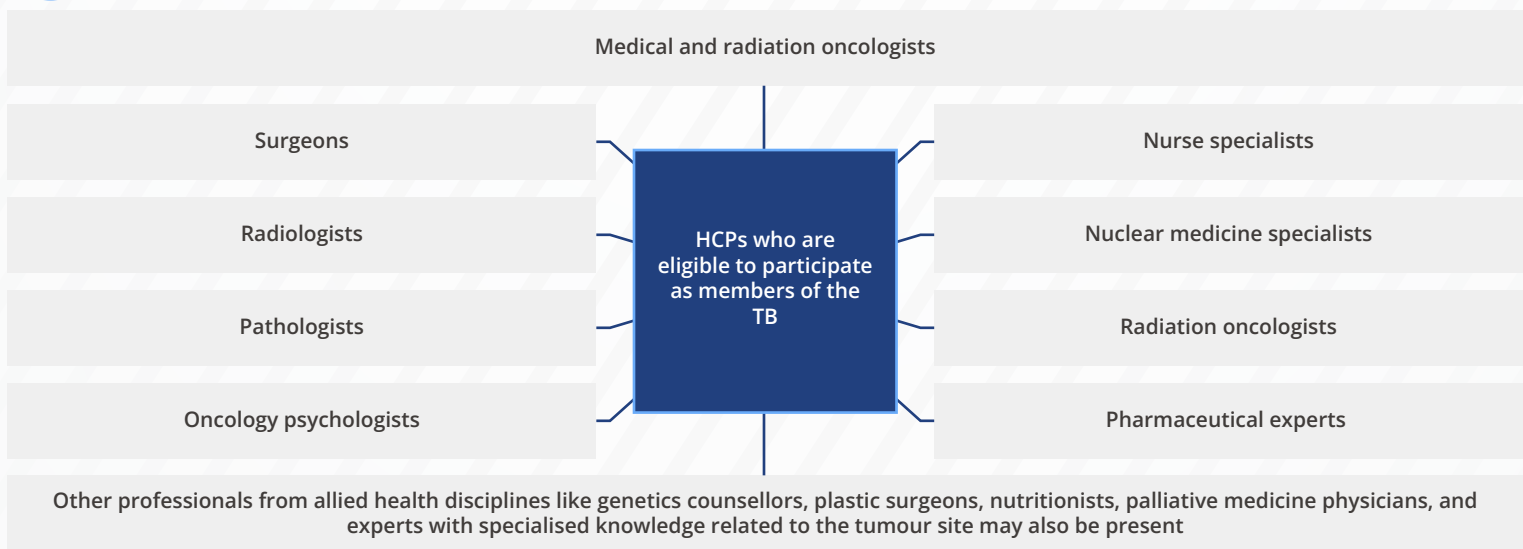
- ✔ MDTs help in the formulation of an appropriate treatment plan, after consideration of available evidence, resulting in customised treatment regimen and follow-up plans
- ✔ MDT meetings, also known as tumour boards (TB), have gained a more collaborative approach where the decisions and clinical responsibilities are shared by all TB members
- ✔ Permits optimised decision-making and communication, contributing to improvement of the healthcare system, and improves the experience of both HCPs and patients with BC
- ✔ TBs improve communication, continuity of care, and coordination between different HCPs involved in the cancer care process

MDT meetings and members



TBs or multidisciplinary cancer conferences, are a key component enabling the discussion of clinical and pathological profiles of patients with BC

Members of TBs and their involvement in MDT meetings depend on several factors such as cancer type and hospital size



Clinical studies supporting the use of MDTs in cancer care



A systematic review by Lamb et al. (2011) showed that the MDT approach ensured:

- Increased adherence to clinical guidelines
- Improvement in diagnostic accuracy
- 7% to 23% – higher chances of patients being offered chemotherapy
- 3.2 to 6.6 months – significant increase in survival of patients being offered chemotherapy



In another systematic review, by Prades et al. (2015), the approach resulted in:

- Improvement in BC staging accuracy and diagnosis
- Appropriate treatment plans via pre-operative review of imaging and pathology results
- Updated treatment regimens with a structured follow-up care plan
- Increased survival and improved quality of life for patients with BC
- Elevated satisfaction levels for both patient and clinician
- Reduced time from diagnosis to treatment



In another systematic review by Pillay et al. (2016), the approach resulted in:

- Improved staging accuracy and diagnosis
- Changes in patient management
- Limited survival benefits
- Minimal effect on waiting times



Shared decision-making (SDM)⁴

SDM involves HCPs and patients making informed decisions based on the best available clinical evidence, while accommodating the person's values and preferences

Advantages of SDM

Helps to restore balance and reduce power differentials, improving communication between a doctor and a patient

Increases a patients' autonomy and control regarding decisions involving their health

Core principles of SDM

Communication of risks and benefits

Clarification of values

SDM in BC screening approaches

Mammography for screening of BC in women aged 40 to 49 years may lead to a reduction in BC mortality but increase false positives

SDM can play an active role in choosing the appropriate diagnostic technique for BC screening

Broader benefits of SDM⁵

- Improves health outcomes by boosting treatment adherence and disease management
- Enhances patient satisfaction through personalised therapy, empowering care experiences
- Promotes health equity by reducing disparities and supporting disadvantaged groups
- Increases cost efficiency by cutting down on unnecessary treatments and hospital stays
- Builds health literacy, helping patients understand choices and make informed decisions

SDM in the clinical management of BC screening approaches



A study by Pillay et al. (2018) found:

- Complete information regarding the benefits and harms of BC screening influenced women's values and preferences
- Improved understanding of screening outcomes resulted in a higher uptake of screening among women

Additional studies by Hersch et al. (2013) and Nagler et al. (2017)

- Demonstrated that most women were unaware of the harms of increased BC screening, such as overdiagnosis and overtreatment
- However, women valued information about BC screening modalities, stressing the importance of discussing such issues



Instruments for assessing SDM can be classified into three categories

1. Instruments like control preference scale to evaluate patient preferences, confidence, attitudes, and active participation in decision-making
2. OPTION scale, or the 9-item SDM Questionnaire (SDM-Q-9) to assess the decision-making process
3. Decisional Conflict scale, the Decision Regret scale, or the SURE scale to evaluate the decision outcomes



Decision aids

- Tools that complement counselling from HCPs, and enable an individual to be involved in different stages of SDM
- These are proven to increase knowledge and allow for informed choices regarding BC screening in controlled trials

Assessment of the effects of SDM for supporting women's decisions about BC screening⁶

Systematic review involving 19 clinical trials with 64,215 women with an average to moderate risk of BC



Single trial involving all components of SDM compared to control, the effects of SDM on participant knowledge regarding the age to initiate BC screening and frequency of testing was unclear

In six trials assessing the shortened forms of SDM involving communication on risks and personal preferences, SDM is likely to reduce decisional conflicts and enhance knowledge, leading to higher rates of informed choice

Patient profile: clinical and pathologic characteristics affecting BC-specific-mortality⁷

Higher risks of mortality for patients with triple negative BC (TNBC) subtype, followed by hormone receptor negative (HR-), and human epidermal growth factor receptor 2-positive (HER2+)



The presence of ≥ 4 cm ipsilateral axillary positive nodes had higher mortality risks for patients with TNBC compared to negative ipsilateral axillary node

Histologic Grade 3 is an important risk factor of mortality for patients with HR+, HER2- early BC (EBC), when compared with Grade 1

Tumour size of ≥ 5 cm and ≥ 4 cm ipsilateral axillary positive nodes had higher risks of mortality for patients with HR-, HER2+ or HR+, HER2+ EBC

Lower risk of mortality in patients with HR+, HER2+ or HR+, HER2- EBC

Patients with EBC, especially those with HR+, HER2- EBC subtypes have higher risks of mortality, necessitating the need for intensive and advanced therapies⁷

Management of immunotherapy-related toxicities⁸



Immunotherapy-related toxicities⁸

- Immune checkpoint inhibitors (ICIs) prevent the evasion of cancer cells which overexpress programmed death-ligand 1 proteins, leading to their elimination by cytotoxic CD8 T immune cells
- Adverse events due to ICI therapy are referred to as immune-related adverse events (irAEs)



Guidelines for the management of irAEs⁸

- Detection, diagnosis, and grading of irAEs
- Differential diagnoses and pre-immunosuppression work-up
- Selection of suitable immunosuppression strategy for AEs of Grade ≥ 2
- Assessment of adapted treatment at 72 hours



Guidelines to minimise the occurrence of corticosteroid (CS)-induced AEs⁸

- Utilisation of lower, tapered doses of CS in shorter durations for irAEs of Grade ≥ 3
- Medically advised tapering or discontinuation of CS therapy
- Lifestyle modifications to reduce the risk of CS-induced AEs

Risk of recurrence and follow-up care⁹

Utilise advanced tools to assess patients at higher risk for recurrence

Early detection of limited metastases enables effective systemic therapies and local treatments



Develop tailored follow-up plans based on individual risk profiles and treatment histories

Adopt an integrated multidisciplinary approach for comprehensive care

Address both medical needs and overall well-being to enhance the quality of life

Equity of access to care

Timely access to cancer management¹⁰



Early detection and adequate treatment of BC can significantly reduce BC mortality

Access to interventional therapies such as surgery and radiation is key to improving BC treatment outcomes

Disparities in access to BC treatment in low- and middle-income countries (LMIC)¹⁰



Delay in availing systemic therapies, especially in low resource scenarios and LMIC leads to poor patient outcomes

Cancer control programs providing cost-effective treatment approaches are the need-of-the-hour in LMIC

Potential interventions to improve access to BC treatment in LMIC¹⁰



Prioritisation of resource allocation and improving healthcare systems through universal healthcare coverage

Creation of national cancer care plans that ensure increased access to the basic diagnostic and treatment procedures

Development of culturally adapted BC awareness campaigns targeting at-risk populations

Key messages

- ✔ Effective pain management can improve clinical outcomes and lower complication rates in patients with BC
- ✔ TBs are an effective approach in cancer care to improve the quality of healthcare processes and patient outcomes
- ✔ Clinical guidelines include SDM as a recommended approach to support the BC screening decisions of women with average risk of BC
- ✔ Timely access to cancer therapies after the initial diagnosis is crucial to improving patient outcomes
- ✔ Reduced, tapered drug doses along with lifestyle modifications can minimise AEs and toxicities due to cancer therapies

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