NURSING A PATIENT WITH ACUTE PAIN

Case study: Forty-year-old woman post-mastectomy
Abstract

The management of acute pain is essential for nurses within clinical practice, particularly when dealing with post-mastectomy patients. Post-mastectomy pain is associated with the physical removal and subsequent damage of tissue, psychological distress, and inadequate or non-adherence of pain management. Acute pain referred to in the following essay represents the perception of pain three or less months in duration caused by a mastectomy surgery. An examination of pain definitions and theories, together with the use of a post-mastectomy case study, allowed for a broad understanding of acute pain. Pain management strategies are guided by pain pathway concepts, however, the emotional and psychological aspects of pain suggest that post-mastectomy pain is a multidimensional, unique experience. Before treating pain, it is important to understand how pain is experienced by undertaking a pain assessment, either verbal or non-verbal in nature. However, some assessment techniques lack specific descriptive information, which can lead nurses to underestimate the patient’s pain. Acute pain can worsen or persist if the nurse only focuses on the physical aspects of pain, disregarding the psycho-social influences (Mohamed & Abdel-Ghaffar, 2013; Schug, et al., 2015). A holistic assessment is required to comprehensively evaluate post-mastectomy pain. Post-mastectomy pain is complex, requiring several analgesics targeting different pain receptors (Gregory, 2014). Non-pharmaceutical interventions can work in collaboration with medication to control and manage post-mastectomy pain, without further side-effects. Some effective post-mastectomy pain interventions include: hot or cold therapy, patient support, transcutaneous electrical neural stimulation and music therapy. These holistic pain management strategies have been shown to improve patient outcomes, making the nurse instrumental in preventing the persistence of acute pain. Central to holistic pain management is tailored patient care, addressing individualised aspects of pain to prevent post-mastectomy pain developing into chronic pain.
Acute pain management is a vital component of nursing care within the clinical setting. Patients are known to experience high levels of pain after mastectomy procedures (Hovind, Bredal, & Dihle, 2013). A mastectomy is a surgical procedure to remove tissue in the hopes of preventing or treating breast cancer (Li, et al., 2011). This treatment could result in acute post-mastectomy pain, which have the potential to develop into chronic pain if left untreated. Through an analysis of the definition and theories regarding acute pain, a case study of a forty-year-old experiencing acute post-mastectomy pain is better understood. Before treating pain, it is important to understand how the patient experiences their pain. Several suitable assessment techniques can be used as part of this process such as verbal and non-verbal tools. However, because pain is multidimensional it means assessment tools focusing on the whole person are just as important. These assessments are used to frame possible post-mastectomy pain management. Acute post-mastectomy pain may require pharmaceutical interventions, although non-pharmacological therapies can be used in conjunction to offer the best possible chance of recovery for the patient. Tailoring the pain management to the individual allows the case study patient [CSP] the best possible chance of a full recovery by considering their post-mastectomy pain as a unique experience.

Formulating a definition of acute pain is fundamental in analysing aspects of a post-mastectomy case study. Appropriate treatment is provided based on how pain is classified (Zeleníková, Žiaková, Čáp, & Jarošová, 2014). Without the use of pain definitions, nurses are at risk of providing inappropriate and unsatisfactory pain management to their patients (Zeleníková, Žiaková, Čáp, & Jarošová, 2014). Pain can be described as an unpleasant sensation, physical or emotional in nature, related to possible or genuine tissue damage (Schug, Palmer, Scott, Halliwell, & Trinca, 2015). Li et al. (2011) supported this notion, although inserted a multidimensional element. Acute pain refers to a sharp pain shorter in duration, while chronic pain is more associated with a dull pain longer in length (Taylor, Lillis, Lemone, & Lynn, 2011; Schreiber, et al., 2013). Acute pain has also been defined as quick in onset, short in duration and protective in nature (Taylor, et al., 2011). Farrell and Dempsey’s (2014) definition of acute pain has several similarities to Taylor et al.’s (2011) definition, although they stipulated a duration of up to six months. In contrast, Fishbain et al. (2014) and Riskowski (2014) defined acute pain to occur for three months or less due to a procedure or incident. Even though pain definitions found in literature incorporate similar aspects, an absence of an overall consensus still remains. As such, this essay refers to acute pain three or less months in duration, caused by a surgical procedure such as a mastectomy. This definition will be used in assessing the case study of a forty-year-old female experiencing acute post-mastectomy pain.
A mastectomy procedure involves the removal of breast and/or lymph tissue which could result in possible nerve, muscle or tissue damage (Li, et al., 2011; Belfer, et al., 2013). Even though a mastectomy can occur prophylactically to prevent the development of breast cancer, Ye, Yan, Christos, Nori and Ravi (2015) suggested that females in their forties were more likely to undergo a mastectomy due to a breast cancer diagnosis. Schreiber et al. (2013) outlined that the majority of mastectomy patients rate their pain as the most distressing symptom, often leading to psychological anguish, physical disability and impediments in their pain management. Holistic nursing care considers and addresses all aspects of health impacted by a mastectomy procedure. A forty-year-old female case study patient is used to assist in understanding the nursing management of acute pain post-mastectomy. To fully appreciate post-mastectomy pain, one needs to consider theoretical models of pain.

The post-mastectomy case study’s pain can be better understood by considering theories around pain perception (Moayedi & Davis, 2013). The Specificity Theory [TST] by Charles Bell formulated a concept of specificity, where each neuron responds to a distinct stimulus (Chen, 2011; Moayedi & Davis, 2013; Perl, 2011). Central to TST is the idea that pain travels along a pathway from the periphery through the spinal cord to the brain (Moayedi & Davis, 2013). The Gate Control Theory of Pain [GCTP] by Melzack and Wall use this idea of a pain pathway to theorise that the pain signal can be inhibited through sensory stimulation (Chen, 2011). These theories can be applied to the post-mastectomy case study through careful selection of pain management techniques. However, TST and GCTP does not explain the complexities of pain experienced by post-mastectomy patients (Gregory, 2014; Perl, 2007). Vilkom, Cold, Rasmussen and Sindrup (2009) suggested that this could be due to both nociceptive and neuropathic involvement in post-mastectomy pain sensation. The majority of pain theories overlook the situational, physical and psychological aspects of pain, which is central to the Theory of Unpleasant Symptoms by Lenz et al. (Matthie & McMillan, 2014). This theory raises the idea that pain, including post-mastectomy pain, is multidimensional, not only supporting Li et al.’s (2011) definition of pain but also supporting a holistic view of pain (Hayes & Hodson, 2011; Matthie & McMillan, 2014). Furthermore, Khan, Raza and Khan (2015) argued that pain is a unique experience which cannot be shared or measured, suggesting perhaps that instead of using a pain theory to understand the case study, it should be assessed and valued as a distinct experience.
The concept that pain is an idiosyncratic experience is reinforced by assessing how the CSP experiences their pain. Pain can be assessed verbally, through observations or by using holistic patient assessment methods. The first type of assessments to be discussed refer to verbal pain assessment tools [VPAT]. A VPAT used in the clinical environment is the numeric rating scale [NRS] (Ledowski, et al., 2013; Pudas-Tähkä, Axelin, Aantaa, Lund, & Salanterä, 2009). The NRS requires the CSP to assign a number between zero and ten, based on their current pain (Bertagnolli, 2004).

Eriksson, Wikström, Arestedt, Fridlund, and Broström (2014) argued that the NRS is open to interpretation, as the post-mastectomy patient and nurse may have opposing understandings of the same pain score (Alemdar & Aktas, 2014). Regardless of the criticism, NRS is a valuable tool which can help to formulate a common language between the nurse and CSP, allowing to track how pain may change (Wikström, Eriksson, Årestedt, Fridlund, & Broström, 2014). If the post-mastectomy patient finds it difficult to assign numerical values to their pain, they can instead choose to describe it (Eriksson, et al., 2014). Pain descriptive tools such as the verbal descriptor scale [VDS] and COLDSPA can be used to assess the case study’s pain (Gregory, 2014; Montgomery & Mitty, 2008). The VDS is similar to the NRS, but instead of using a numerical scale it uses descriptive phrases such as ‘intense’, ‘mild’ or ‘no pain’ (Gregory, 2014). Even though it is descriptive in nature, it does lack specificity (Gregory, 2014). In contrast, COLDSPA is a comprehensive mnemonic able to assess the character, onset, location, duration, severity, pattern and associated patterns of pain (Düzel, Aytaç, & Öztünç, 2013; Montgomery & Mitty, 2008). If the patient in the case study acknowledges they have pain, COLDSPA can be used to better understand how they experience their pain. Acute pain is often undetected or inadequately treated, which have led some to suggest that pain assessment should be considered to be the fifth vital sign (Bertagnolli, 2004; Lorenz, et al., 2009).

Pain assessment is just as important for those patients unable to communicate their pain (Pudas-Tähkä, et al., 2009). Immediately post-surgery the CSP may be drowsy or sedated, therefore highlighting the need for non-verbal pain assessment tools such as the behavioural pain scale [BPS] and non-verbal adult pain assessment scale (NVAPAS) (Pudas-Tähkä, et al., 2009). Arbour and Gélinas (2010) stated that vital signs are not an adequate predictor of pain, hence why BPS and NVAPAS use a combination of vital sign results, behavioural, and physiological observations to assess the patient’s pain level (Pudas-Tähkä, et al., 2009). Acute pain can lead to physiological and behavioural changes such as; increased blood pressure; higher respiration rate; rise in heart rate; flushed skin appearance; pupillary dilation; decreased body movements; and facial grimacing (Pudas-Tähkä, et al., 2009). Even though Pudas-Tähkä et al. (2009) found BPS to be the most valid and reliable indicator of acute pain, its applicability in assessing post-mastectomy pain is yet to be
Acute pain experienced by the CSP could be due to the mastectomy procedure itself, alternatively it could be indicative of a potential post-surgery complication (Mancaux, et al., 2015). Adequate assessment of the wound site could assist the nurse to attribute the patient’s pain to an infection instead of assuming that it is connected to the surgical procedure (Mancaux, et al., 2015). Furthermore, it may be suitable to assess the patient’s circulation, neurological function and respiration as these can impact post-mastectomy pain and complications (Pereira, et al., 2015). Non-verbal pain assessment tools are at risk of the nurse underestimating the patient’s pain (Pudas-Tähkä, et al., 2009). However, this could be due to the assessment focusing on the physical aspects of pain and disregarding the biopsychosocial components of pain (Schreiber, et al., 2013).

Pain has been described as being multidimensional in nature, highlighting the need for a holistic pain assessment (Newson, 2008). Schreiber et al.’s (2013) research showed a strong correlation between psycho-social aspects and the development of persistent post-mastectomy pain. They observed that acute pain is particularly associated with psychological anguish, anxiety, depression, disturbed sleep and dysfunctional coping strategies, findings supported by Fishbain et al. (2014). It is theorised that the emotional and sensory neurological pathways appear to act independently while simultaneously functioning in parallel, giving rise to a strong association between the emotional and physical feeling of pain (Fishbain, et al., 2014). This could explain why some post-mastectomy patients often describe both the physical and psychological elements of pain (Matthie & McMillan, 2014). The CSP may report intensified feelings of pain due to psychological and social distress related to an altered body image, separation from family or coping with a breast cancer diagnosis (Jia-Rong & Mei-Ling, 2014). If pain is assessed purely from a physical standpoint it is possible that the post-mastectomy pain could worsen or persist (Mohamed & Abdel-Ghaffar, 2013; Schug, et al., 2015). Jia-Rong and Mei-Ling (2014) illustrated that pain assessment tools incorporating coping strategies can empower post-mastectomy patients, thereby improving their pain (Slatyer, Williams, & Michael, 2015). The whole-person assessment [WPA] is such a tool, although it also covers physical, emotional, environmental, spiritual and social aspects of health (Hayes & Hodson, 2011). By treating the patient holistically, the nurse is able to address each component of the patient’s health (Durie, 1998). Kress et al. (2015) showed that holistic nursing care is able to improve the patient’s emotional anguish, quality of life, and overall recovery. As such, by considering health in its entirety, nurses are ideally placed to provide care which can vastly improve the overall health outcome of patients. The role of the nurse in psychological, emotional and physical assessment is vital, as only nurses consider all these health aspects as one (Andión, Cañellas, & Baños, 2013). Even though the WPA was redesigned to address chronic pain, Hayes and Hodson (2011) advised it can be used to address acute post-surgery pain.
The CSP underwent a surgical procedure, further emphasising the suitability of WPA as an assessment tool. Even though the WPA can be time consuming to complete, Newson (2008) stressed its importance as cultural and spiritual elements could influence how the CSP express their pain. The use of suitable pain assessment can ensure appropriate nursing management strategies are put in place.

Invaluable information obtained through pain assessment can assist to formulate appropriate pain management for the case study. Applicable pain management techniques can include pharmacological and non-pharmaceutical interventions that are continuously monitored and tailored to the individual. The first management approach to be discussed deals with pharmaceutical interventions. Opioid analgesics work by binding to receptors in the central nervous system to interrupt the pain signal (Dubin & Patapoutian, 2010). According to Amaya et al. (2015), most analgesics can suppress acute post-operative pain, however Gregory (2014) pointed out that post-mastectomy pain may require several analgesics to target both nociceptive and neuropathic receptors. The analgesia ladder is a useful paradigm in addressing pain in the CSP by using non-steroidal anti-inflammatory drugs, paracetamol and adjuvant medication in conjunction with opioid analgesics (Gregory, 2014). Legeby, Sandelin, Wickman and Olofsson (2005) showed that administering several different analgesic medications can significantly reduce post-mastectomy pain. Using a combination of medication to treat acute pain allows for effective pain relief but at a reduced dose (Gregory, 2014). A lesser dose can also decrease the analgesic side-effects such as nausea and vomiting, felt by some post-mastectomy patients (Montgomery, et al., 2007).

Nausea and pain should be considered in unison, as both can have the same physiological consequences. Montgomery, Schnur, Erblich, Diefenbach and Bovbjerg (2010) suggested that pain and nausea is particularly unfavourable for post-mastectomy patients as it can significantly prolong patient recovery, delay hospital discharge or lead to unforeseeable readmission. The adverse health effects of nausea can be worsened by the presence of emesis (Singh, Yoon, & Kuo, 2016). Vomiting can impact the patient’s overall health as it can lead to dehydration, reduced nutritional intake and pulmonary complications (Duncan, et al., 2014). Amaya et al. (2015) argued that the inclusion of antiemetic medication into post-mastectomy recovery treatment is therefore just as important as analgesia. The nursing role in pharmaceutical pain management relates to the administration of medication, monitoring of side effects and providing patient education (Alemdar & Aktas, 2014). Timmerman, Stellema, Stronks, Groeneweg and Huygen (2014) showed that patients are more likely
to adhere to treatment regimens if they are provided education, specifically related to the medication and associated side effects. Some medications are prescribed on an as need basis, which require the nurse to use their assessment skills to analyse suitable pharmaceutical interventions (Gordon, Pellino, Higgins, Pasero, & Murphy-Ende, 2008). Alternatively, the nurse can administer medication strategically to assist the CSP with mobilisation, hygiene cares or nutritional intake (Legeby, et al., 2005). Pharmacological strategies can be used in conjunction with non-pharmaceutical interventions to help manage acute pain post-mastectomy.

As nurses provide holistic patient care, it is important to consider non-pharmacological interventions to help manage post-mastectomy pain. Vilkhom et al.’s (2009) research found that patients experiencing pain have intensified cold and warm detection thresholds supported by Kaunisto et al.’s (2013) findings in post-mastectomy patients. As such, Kaunisto et al. (2013) suggested that hot or cold therapy can be used to treat post-mastectomy pain. Silva et al. (2014) on the other hand found that transcutaneous electrical neural stimulation [TENS] have a similar analgesic effect, particularly for intercostal pain in post-mastectomy patients. Both hot or cold therapy and TENS support the GCTP by using a non-noxious stimulus to disrupt the pain signal (Perl E. R., 2011; Mendell, 2014). Other non-pharmaceutical therapies have a psychological focus. Clarke et al. (2015) showed that post-mastectomy patients experience increased feelings of depression and anxiety. After receiving emotional support these patients reported lower levels of pain (Clarke, et al., 2015). This could be due to actual decreases in pain, better coping skills, or distraction (Li, et al., 2011). Regardless of the pain relief action, addressing a patient’s emotional and psychological health plays an integral part in post-mastectomy pain management (Clarke, et al., 2015). Hovind et al. (2013) found that post-mastectomy patients reported a need to discuss the recovery process, therapy options and risk of developing ongoing chronic pain. The nurse can address the CSP’s psychological health by creating instances to communicate these concerns, which could lead to further educational opportunities (Cho, et al., 2012). Hayes and Hodson (2011) showed that post-mastectomy patients provided with adequate information are able to cope better with their acute pain while Cho et al. (2012) showed that it could lead to better health outcomes. Another useful pain treatment option addressing psychological aspects of pain in the post-mastectomy case study is music therapy (Li, et al., 2011). Music therapy is effective yet non-invasive with no added side-effects, and can also be used to treat depression, anxiety, nausea, and vomiting (Li, et al., 2011). Even though some of these non-pharmaceutical therapies may be useful, each individual has a unique response to treatment.
To provide suitable holistic patient care, nursing interventions must be individualised. Pain management has been shown to be more effective if it is tailored to the individual patient (Gupta, et al., 2010). Pain is a subjective experience and should be recorded and treated as it is described by the patient (Ledowski, et al., 2013). Two studies found a difference in pain threshold between various ethnicities (Belfer, et al., 2013; Riskowski, 2014). This was attributed to potential socio-economic influences, discrimination or physiological differences, which may be applicable to the case study depending on their ethnicity or situation (Riskowski, 2014). Nurses are ethically responsible for pain management, as such the CSP’s pain should be managed regardless of their socio-economic status, culture, ethnicity, sex or history (Düzel, et al., 2013). Newson (2008) suggested that acute post-mastectomy pain can lead to chronic pain due to cultural attitudes forming barriers to pain management (Mularski, et al., 2006). In some cultures, it is considered inappropriate to show a weakness such as pain (Chiauzzi, et al., 2011). This could influence pain management, thereby prolonging the CSP’s recovery. Another influencing element on post-mastectomy pain is identity. As a forty-year-old, the CSP must overcome Erikson’s crisis stage of generativity versus stagnation (Slater, 2003). Developing resiliency, a coping mechanism in itself, can lead the CSP to experience improvements in acute post-mastectomy pain (Fishbain, et al., 2014; Svetina, 2014). At this stage there is already a heightened sense of self-awareness, which is further compounded by the loss of breast tissue (Satinder & Hemant, 2015; Slater, 2003). As a relatively young women under-going a mastectomy procedure, there is a high risk of developing body image concerns. This highlights the importance for nurses to assess and provide holistic care, tailored to each individual’s co-morbidity that may arise (Kress, et al., 2015). As breasts are associated with motherhood, femininity and sexuality, the removal of them could adversely impact the individual’s body image (Lewis-Smith, 2015). Schreiber et al. (2013) noted that an altered body image could lead to feelings of anxiety, stress and depression which can worsen their post-mastectomy pain (Clarke, et al., 2015; Schreiber, et al., 2013). Pre and post-operative counselling or breast reconstructive surgery cannot only help mastectomy patients to feel more attractive, but can improve their pain and overall well-being (Lewis-Smith, 2015; Satinder & Hemant, 2015). Addressing acute post-mastectomy pain prevents the risk of it developing into chronic pain.

If post-mastectomy pain is not adequately treated, it can persist and develop into chronic pain. Clarke et al. (2015) outlined that mastectomy patients have a high risk of developing chronic pain, which Mohamed and Abdel-Ghaffar (2013) suggested could be due to uncontrolled acute pain. This
was supported by Schug et al. (2015) who stated that most post-mastectomy patients experience pain for six months post-surgery, implying that chronic pain is inevitable. Even though Liet al. (2011) suggested that chronic pain post-mastectomy was mostly associated with tissue damage, Schreiber et al. (2013) argued that untreated psychological factors have similar risk factors for developing chronic pain. As such, it is paramount for mastectomy patients to receive treatment according to their own situation (Gupta, et al., 2010). One aspect of post-mastectomy recovery requires the involvement of a multidisciplinary team each focusing on certain aspects of overall health (Wikström, et al., 2014). Milby, Böhmer, Gerbershagen, Joppich and Wappler (2013) found that post-operative pain management handovers are often incomplete, which could negatively impact the patient’s recovery. Thus, an important aspect of managing post-mastectomy pain involves accurate documentation to ensure continuity of care (Mazanec, et al., 2002). Both Mularski et al. (2006) and Nworah (2012) suggested that it is not adequate to just document the pain, but to act on the information with appropriate interventions. Eaton, Meins, Mitchell, Voss and Doorenbos (2015) recommended the use of evidence-based pain management strategies, taking into account clinical experience, research findings and patient predilections. To provide research-based interventions within clinical practice, nurses are required to undertake continuous professional development (Eaton, et al., 2015). Ongoing professional development allows nurses the opportunity to gain knowledge and confidence in using the latest post-mastectomy pain management strategies (Eaton, et al., 2015). The adequacy of the case study’s pain management regime can be further enhanced by referring them to the specialised pain team (Bertagnolli, 2004). This team will assess the patient’s pain and response to treatment, while also taking into consideration how the pain impacts the patient’s sleep and psychological well-being (Bertagnolli, 2004; Duncan, et al., 2014). Establishing interventions that deal with all aspects of health, allow the individual to receive the right treatment for their unique situation with the hope of preventing the persistence of post-mastectomy pain (Gupta, et al., 2010; Schreiber, et al., 2013).

Pain is an unpleasant sensation often associated with surgical procedures such as a mastectomy (Schug, et al., 2015). Acute post-mastectomy pain is comparatively short in duration and mostly associated with the mastectomy procedure. The case study of the forty-year-old post-mastectomy patient assisted in understanding how acute pain is experienced. Nurses can incorporate the knowledge of pain manifestations and influences into their clinical practice, by providing tailored pain management interventions based on solid research findings. Even though there are pain theories that describe how pain is perceived, post-mastectomy pain continues to be a subjective experience. Therefore, the nurse should assess pain as such, either through verbal, non-verbal or a
whole person assessment. Tailoring treatment to the patient can occur through careful selection of pain management techniques. Post-mastectomy patients may find pharmaceutical interventions beneficial, however non-pharmacological measures can provide just as much pain relief. By offering these therapies in conjunction with one another, the patient is able to access pain management which is suitable for them. Just like pain, the treatment is also unique with every single person. Tailor made pain management strategies allow the patient a greater chance of recovering from experiencing acute post-mastectomy pain, without it developing into chronic pain. Central to this recovery process is the role of the nurse and how they assess, manage and document the patient’s pain. Without appropriate pain management, the patient runs the risk of experiencing persistent post-mastectomy pain. Through professional development, nurses are able to continuously inform their clinical practice with evidence-based pain management strategies with the view to ultimately improve patient outcomes.
References


