Assessing, diagnosing and managing neuropathic pain

**Learning objectives**

- Understand the patient experience of neuropathic pain;
- Explain the factors that can contribute to neuropathic pain;
- Assess patients with neuropathic pain;
- Identify the treatment options available for neuropathic pain.

Each week *Nursing Times* publishes a guided learning article with reflection points to help you with your CPD. After reading the article you should be able to:

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Neuropathic pain and its co-morbidities can be detrimental to a patient’s quality of life, affecting both physical and psychological well-being. Diagnosing neuropathic pain can be difficult and some patients may have to wait up to 12 months to see a pain specialist. The nursing contribution to recognising and managing neuropathic pain is vital if patient care is to be improved. It is therefore necessary for nurses to understand the assessment, diagnosis and management of neuropathic pain.

Pain is a universal experience and the most frequent reason that people access healthcare services (Waddell, 1998). For healthcare professionals to help patients manage their pain, it is necessary for them to have an understanding of its assessment and diagnosis and be knowledgeable about treatment options. Most nurses have a good understanding of acute pain. Chronic pain can continue for months or even years without being recognised or treated. Nurses in both primary and secondary care can help patients who are experiencing chronic pain to manage and understand it.

What is neuropathic pain?

People usually think of pain as having some physical cause (nociceptive pain). Damaged nerves can also generate pain that often does not go away. This chronic condition is called neuropathic pain (NeP) and results from damage to either the peripheral or central nervous system (Richeimer, 2005). This type of pain can be devastating for patients who experience it and frustrating for the healthcare professionals attempting to treat it.

NeP serves no protective biological function. Rather than being a symptom, NeP is itself a disease process. It is unrelenting and not self-limiting – it may persist long after the initial injury and can be refractory to multiple treatment modalities if it is inadequately treated. Associated symptoms can include chronic anxiety, fear, depression, sleeplessness and impairment of social interaction.

**Causes of neuropathic pain**

NeP affects up to 8% of the population (Torrance et al, 2005). It is relatively common in people with certain conditions. For example:

- 20–40% of people with diabetes experience NeP (painful diabetic neuropathy) (Serpell, 2004);
- 25–50% of patients aged over 50 years with herpes zoster infection develop post-herpetic neuralgia three months after the rash heals (Rice and Maton, 2001);
- 30% of people with cancer experience NeP (Davies and Walsh, 2004);
- 20% of women develop neuropathic pain post mastectomy (Bowsher, 1991).

Other conditions in which NeP may develop are:

- Trauma – phantom pain and brachial plexus injury;
- Inflammatory – rheumatoid arthritis and multiple sclerosis;
- Vascular – central post-stroke pain.

**Common symptoms**

Assessment is necessary for the diagnosis and management of pain, particularly NeP. Nociceptive pain and NeP are caused by different processes that present with different symptoms and respond to different treatments. Some typical features of NeP are listed in Box 1.

Effective communication with patients is essential as useful information can be gained during the assessment process. How the patient describes the pain can aid the diagnosis of NeP. However, this is often quite difficult for patients to articulate. Common words that patients with NeP may use to describe their pain are ‘shooting’, ‘stabbing’ or ‘burning’. It is important to be aware of these trigger words. To help in the diagnosis of NeP you may wish to ask your patients questions such as:

**REFERENCES**


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Diagnosis and the role of the nurse

Diagnosis is the foundation of pain management and is based on clinical assessment in patients with chronic NeP (Waddell, 1998). Effective communication is essential as patients with chronic pain may have high levels of anxiety and depression or lack confidence in healthcare professionals. A detailed pain history is necessary to enable nurses to make a diagnosis and help inform the multidisciplinary team of treatment strategies that are available for NeP.

A clear diagnosis includes not only the patient’s history but also physical examination techniques. Patients may have allodynia, a condition in which normally non-painful stimuli cause pain. Allodynia can be diagnosed by brushing the affected area with a fingertip or cotton wool or by thermal stimulation with a warm or cold object. Patients may also have hyperalgesia, an increased sensation of pain to stimuli such as a pinprick or warm or cold objects.

Non-medical treatment

Once a comprehensive assessment and diagnosis has been made the nurse must advise patients that the treatment goal is to decrease pain. Goals should be realistic. Patients often hope for a cure but this is not always possible. A more realistic goal is to decrease pain to a tolerable level. Successful treatment options should also include improvements to activities of daily living, including mobility, self-care and the ability to socialise.

Effective treatment often includes both non-pharmacological and pharmacological interventions.

Transcutaneous electrical nerve stimulation

Transcutaneous nerve stimulation (TENS) has been used in the treatment of pain for over 30 years. It works by applying low-voltage electrical currents via self-adhesive skin electrodes directed at the painful area. It may be beneficial in some patients but those with allodynia may not be able to tolerate TENS. Alternative electrode sites such as the nerve root level that supplies the dermatome may be an option.

The majority of the evidence for use of TENS is based on individual case studies and there is a lack of evidence of its efficacy (McQuay and Moore, 1998). However, TENS can be used without producing side-effects or interacting with other treatments. If it is to be considered correct, guidance and patient education is necessary to optimise this mode of therapy, remembering that there are some contraindications with TENS.

Physiotherapy

Physiotherapy forms part of the management of most chronic conditions. Chronic NeP, as stated earlier, can result in decreased mobility, muscle wastage and general low levels of fitness.

Nurses recognising this may help patients regain their confidence and improve their mobility and activity with simple postures and gentle exercises. A referral to a physiotherapist may prove beneficial for long-term rehabilitation.

It is also important that the aim of physiotherapy is to improve the patient’s mobility and activity rather than reduce pain. Once again, patients must be made aware of the realistic goals of each treatment as this may facilitate their engagement in treatments such as physiotherapy.

Psychological interventions

Long-term pain affects not only the physical ability of the patient but also patients’ psychological state, so a multidisciplinary approach to its management is generally more effective.

Cognitive behavioural therapy (CBT) may be appropriate if disability and distress are affecting patients’ activities of daily living. The focus should be placed on helping them to understand that pain does not necessarily equal harm and how they can better manage social and interpersonal stressors that may exacerbate their pain. The goal of the treatment is to help patients to cope better with the pain and decrease their levels of anxiety, stress and depression (Waddell, 1998).

REFERENCES


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Relaxation

Relaxation therapy may help some patients to improve pain tolerance and reduce their stress and anxiety. It may also help those who have an element of muscle tension associated with their pain. Although there are few side-effects to this therapy, teaching patients the technique may be time-consuming. The aim of relaxation would be to improve their sleep, coping and pain tolerance. This may be done individually or in a group.

Pharmacological management

Conventional analgesics

NeP is often refractory to treatment with conventional analgesics (Rice and Maton, 2001). Patients with mild to moderate NeP may gain some benefit from such preparations, for example simple or compound analgesics and NSAIDs. However, most patients with NeP require centrally acting drugs such as antidepressants and/or anticonvulsants (Prescriber, 2001). If patients require a number of medications to help reduce the pain then it is important to ensure they understand drug interactions, contraindications and side-effects.

Opioids

There is some evidence that opioids can be effective in treating certain types of neuropathic pain but the evidence is limited. For mild NeP, opioids may be useful but severe NeP does not generally respond well to them (Watson and Babul, 1998).

Topical agents

Topical agents offer the advantage of local relief without systemic toxicity. Topical capsaicin, which contains an extract of chilli pepper, has been demonstrated to be more effective than a placebo in the treatment of NeP (Volmink et al, 1996). Patients may experience a burning sensation that decreases with use. Capsaicin acts on sensory nerve endings, desensitising them through the depletion of substance P, a neurotransmitter (Kanazi et al, 2000). Local anaesthetic creams may be applied prior to the use of capsaicin if required. Patients will need to be advised on how best to use capsaicin. It will need to be applied three times a day.

Lidocaine is used topically with modest effect in the treatment of post-herpetic neuralgia (PHN), a condition caused when nerve fibres are damaged during an infection with the herpes zoster virus shingles (Rowbotham et al, 1996).

Tricyclic antidepressants

Treatment of NeP has relied mainly on the use of tricyclic antidepressants because of their ability to block the reuptake of noradrenaline and serotonin, although they are not currently licensed for the treatment of NeP in the UK. These drugs may relieve pain by increasing the activity of inhibitory spinal neurones involved in pain perception (Dunbar and Bennett, 1983).

Most studies have examined amitriptyline and have shown that in low doses it may reduce pain in diabetic neuropathy and PHN by more than one-half (Bowsher, 1999). However, the anticholinergic side-effects of tricyclic antidepressants, which include uncomfortable symptoms of mouth dryness, constipation and blurred vision, may prevent some patients from taking them.

Anticonvulsants

Some anticonvulsants are membrane-stabilising drugs acting on sodium channels, while others work by inhibiting the release of glutamate (Allen, 2001). This means the failure of one anticonvulsant to reduce pain does not mean that an anticonvulsant with a different mode of action will also fail.

The use of carbamazepine in trigeminal neuralgia is well established but adverse side-effects can be unpleasant (Kanazi et al, 2000). This is of particular concern when treating the elderly and frail. Gabapentin is an anticonvulsant but, unlike the older anticonvulsants, it acts on calcium channel receptors in the spinal cord (Allen, 2001). Because of its lack of adverse drug interactions, multi-drug regimens to help reduce pain can include gabapentin.

Pregabalin, launched in 2004, is licensed for the treatment of peripheral neuropathic pain in adults. It reduces the release of several neurotransmitters, including glutamate, noradrenaline and substance P (Sabatowski et al, 2004).

Pregabalin has been shown to be effective in patients with NeP; has a predictable pharmacokinetic profile with few drug interactions (Bockbrader et al, 2001) and has a good safety profile with a rapid onset of action (Sabatowski et al, 2004). In addition pregabalin is generally well tolerated and has a simple dosing regimen for NeP.

References


