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The Evolution of Pain and the Polio Survivor

Synopsis

It is important, where possible, to define the cause of one's pain. This allows for the appropriately targeted treatment. In the polio survivor situation a clear understanding of the sequelae of polio is necessary to ensure all preventative and interventional treatments are appropriate.

The perception of pain

Pain is what the patient says hurts. There are multiple factors that influence the perception of pain. These can include unique patient aspects, beliefs and concerns, psychological symptoms, cultural issues, physical symptoms, coping strategies and the social context in which the pain was felt. Pain is defined as an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage. Persistent pain is pain that continues beyond the usual time of healing or expected time of recovery, i.e. greater than three months.

The conundrum for the polio survivor is that the pain may be due to multiple factors, including post polio syndrome (muscular and/or neurogenic pain), overuse and delayed effects of polio (biomechanical pain).

Types of pain

Pain can be classified as

(1) *Acute pain* This is usually due to definable acute injury or illness and has a definite onset and its duration is limited. It is often accompanied by anxiety and features such as fast heart rate, fast breathing, high blood pressure and sweating. Treatment is usually directed at the illness or injury causing the pain.

(2) *Persistent or chronic pain*. This results from a chronic pathological process and can have a gradual or ill-defined onset and continues unabated and may become progressively more severe. The patient will present as distressed and withdrawn and may have features associated with depressive symptoms, including lethargy, apathy, anorexia and insomnia. There may well be personality changes occurring due to the pain, with alterations in lifestyle and functional ability. Treatment in the persistent chronic pain picture is directed at an underlying disease where possible, as well as targeting psychological features and social supportive care.

At times patients may have certain activities that cause pain and this situation would be known as incident pain.

Acute pain can also occur in the persistent pain profile – an example of this would be longstanding headaches where they can have features of persistent pain, i.e. chronic headache, with exacerbations of severe headache pain (acute pain).

Common sites of pain in polio survivors

Osteoarthritis and associated pain can be noted in the back, neck, shoulders, hips, knees, hands and feet. There may be muscle pain associated with post polio syndrome. Strains in muscles and tendons are common and may involve the arm tendons, bursae over the hip and ligaments in the feet and hands. Problems with tendons and muscles around the shoulders, elbows, hips and knees may also be noted.

Occasionally patients will complain of nerve type pain arising in the arm (arising from the neck) and in the leg (arising from the back). These are known as radiculopathies. Nerve compressions, such as carpal tunnel syndrome or ulnar nerve compression are also common.

It is important to understand that persistent pain is common, reaching maximum prevalence from the age of the late 40's and moving into the early 70's.

Quality of life and pain

Pain impacts upon one's quality of life. Physical wellbeing, social wellbeing, psychological wellbeing and spiritual wellbeing can all be affected. It is important to attempt to treat acute pain early to break the cycle of chronic pain. Where chronic pain occurs the patient can feel quite helpless and depressed, angry and out of control. This can be compounded by social stresses, financial challenges and reliance on treatments and medications.

The management of pain

It is important that a multidimensional pain assessment is undertaken in the polio survivor. The polio survivor may present with persistent pain and it is important to understand the biological, psychological, behavioural and social impacts of that pain.

The principles of disability prevention and management include

- *prevention*
- *early detection and intervention*
- *partnership*

and subsequent to this a goal orientated rehabilitation plan. It is important that the polio survivor is treated with respect and dignity.

The use of cognitive behavioural therapy is important in the management of persistent pain. Initially one should address fears and encourage resumption of normal activities, with structured intervention such as physical exercise and applying the appropriate psychological support and management with encouragement to be active and take control again.

Education of the polio survivor with respect to pain involves the understanding of the causes of pain, methods of pain assessment management and evaluation and setting out

appropriate goals for treatment. Expectations of the treatment should be clear and not overly optimistic and options of treatment should be outlined. Medications have a role, but should be seen as augmenting the improvement of the quality of life of the polio survivor. It is important that the management of the pain is driven by the polio survivor and to outline the type of activities the polio survivor can do themselves.

Therapy Roles

Pain can be reduced by altering biomechanics, changing lifestyle and reducing the activity or developing discretionary strategies.

Pain management includes physical, cognitive and psychological strategies. Local measures such as hot and cold, ultrasound, TENS machines, massage and differentials can be of use. Exercises targeting joint protection and stabilization, as well as stretching, range of motion, and mobilisation can also assist. The use of orthotics and aids to minimise stressors and improve energy efficiency is justified.

The use of a pain diary to assess the severity of the pain, the behavior of the pain over the day, exacerbating or relieving factors, sleeping patterns, use of medication and functional behavior can also assist in the management of pain.

Psychological therapies are an excellent adjuvant in pain management. The use of psychological strategies does not mean that the pain is not real and does not mean that the treating practitioner is not taking the pain seriously.

Medication Role

The management of pain is not by medication alone. It is a combination of factors including the aforementioned physical therapy, cognitive and psychological therapy, self management and medication to augment these.

Medications in pain management can include simple analgesics such as Paracetamol, non-steroidal anti-inflammatory drugs, anti-depressants and anti-seizure medications to modify the neurological component of the pain, pulses of oral steroids and local and systemic injections where appropriate. Muscle relaxants and anti-spasticity medications may well be of value.

The use of opioid medications is considered where the non narcotic analgesics are not having an effect on the pain.

The principles of using analgesics include selecting the drug appropriate for the type and severity of the pain, following an analgesic ladder starting at simple analgesics to ultimately strong opioids, using adjuvant analgesics such as neuromodulators e.g. anti-depressants and anti-seizure medications, but one should never use a placebo.

Ongoing Management

Regular assessment of the situation for the polio survivor with pain is essential. This is undertaken to maximise functional wellbeing, optimise pain relief, minimise side effects and engender the best quality of life for the polio survivor.

Final Comments

As previously mentioned, in the polio survivor situation a clear understanding of the sequelae of polio is necessary to ensure all preventative and interventional treatments are appropriate. Optimal management of the patient with reduction in pain and return to the previous role is a primary goal associated with improved function or maximal functional improvement whilst using limited resources most efficiently. In essence, we are managing the pain and improving quality of life.

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