



Pain Management

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Abstract

When acute pain turns into chronic, then it is not a symptom of a disease, but it is a disease in itself. It lasts longer than the expected course of the disease or injury. Usual period of 3 to 6 months. In the past the answer to chronic pain was: "everything is in your mind". A useful definition by Margo McCaffrey is: "pain is what describes the person who experiences it and exists when he says he exists." The International Association for the Study of Pain says it is "an unpleasant aesthetic and emotional experience, combined with actual or potential tissue damage, or described in terms of such damage". Pain is transmitted through the body through the nervous system when nerve endings detect damage to a part of the body.

Keywords: Pain; Antiepileptics; Antidepressants; Pain relief creams; Opioids

Introduction

Today, pain specialists can understand how pain is created: The way the nervous system, including the spinal cord, interacts with the brain to create the sensation of pain. Knowledge of the neurotransmitter system, the chemical messengers that transmit nerve signals, has paved the way for important new methods of treating pain [1-3]. In recent years, scientists have learned how to manage these chemical messengers to change the way they interact with brain signals. This has led to the use of antidepressants and other drugs, which work with certain chemicals in the brain, such as which affect emotions and help in perceiving pain. There are now drugs that are very effective. And with advances in MRI, researchers can prove that the changes are very real in the brain. We can see exactly where the sensation of pain in the brain is created, when it is activated by a stimulus. We can see the effects of pain on a person's emotional state. There is also a new concept, a process called central awareness [4]. If the initial pain from an injury is not treated properly, then these pain signals are sent repeatedly, resulting in changes in the central nervous system, which make it increasingly vulnerable. So over time, even normal stimuli can be perceived as painful. With this knowledge, pain specialists are now prescribing medications that attack moderate to severe chronic pain from different perspectives: Innovative drugs, nerve-targeting techniques, and drug delivery pumps that offer strong nerve analgesia. Doctors also approve of the use of psychotherapy, relaxation techniques, and hypnosis and alternative therapies, such as acupuncture, which rely on the growing evidence of a brain-body connection to relieve chronic pain [5,6]. There is still much to learn, but research has shown evidence of the development of even newer treatment options. Pain specialists now prescribe medications that attack moderate to severe chronic pain from different angles: Innovative drugs, nerve-targeting techniques, and drug pumps that offer strong analgesia to nerve root analgesia. And drug delivery pumps, which offer a strong analgesia to the nerve roots.

Many patients come for treatment in the final stages of chronic pain, when it is more difficult to treat. The sooner treatment is started, the better the chances of successfully treating the pain. When the pain is severe then doctors turn to stronger drugs to treat it.

Antiepileptics

Medications used to treat seizures are effective in treating chronic pain. It is unclear how they control pain, but it is thought to lead to milder effects of neuropathic pain, such as post-herpes zoster neuralgia. These include Pregabalin (Lyrica), gabapentin (Neurontin) and Carbamazepine (Tegretol). A new generation of antiepileptic drugs seems to be promising, with fewer side effects.

Antidepressants

Low doses of common antidepressants are prescribed for many chronic pain problems. These drugs adjust the levels of chemicals in the brain, and this is thought to be their mechanism for controlling pain. Antidepressants often help when other treatments do not lead to complete pain control. They lead to pain relief, whether the person suffers from depression or not. The

OPEN ACCESS

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Received Date: 06 Jan 2021

Accepted Date: 02 Feb 2021

Published Date: 08 Feb 2021

Citation:

Maria D. Pain Management. *Ann Clin Anesth Res.* 2021; 5(1): 1035.

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doses used to treat pain are usually lower than those used to treat depression. Amitriptyline (Elavil), Nortriptyline (Pamelor) and Norpramin are tricyclic antidepressants, prescribed for chronic pain, especially cancer pain, neuropathic pain from diabetic neuropathy and post-herpetic neuralgia from shingles. They affect the levels of brain chemicals such as norepinephrine and serotonin. Duloxetine (Cymbalta) is a serotonin and norepinephrine reuptake inhibitor, which increases the availability of brain chemicals serotonin and norepinephrine. Duloxetine has been approved for the treatment of diabetic neuropathy, fibromyalgia and musculoskeletal pain, such as osteoporosis and chronic back pain.

Pain Relief Creams

Topical analgesics, such as capsaicin-containing Zostrix are often helpful. Capsaicin works by reducing the transmission of a pain chemical called substance P to the brain. Products with these ingredients also have a similar effect: Salicylate (found in products such as Aspercreme and Bengay), a substance that reduces inflammation and provides pain relief, and anti-irritants such as camphor, eucalyptus oil and the menthol, which lead to pain relief by causing cold or heat at the site of the pain.

Skin Patches

A transdermal patch containing lidocaine can provide relief from chronic pain. Patches have been approved for neuropathic shingles pain, a condition known as post-herpes neuralgia. Lidoderm and Lidopain are two skin patches of lidocaine. Capsaicin is also available in a patch and is placed by the doctor himself and is called Qutenza. It can be used every three months.

Opioids

When the pain is severe then the next stage is opioids. Opioids such as codeine, fentanyl, morphine, and oxycodone act on pain receptors at the level of nerve cells and are very effective in controlling severe chronic pain. But opioid use has always been controversial. There is a perception among doctors that they will run into legal problems if they undergo treatment or show excessive zeal in treating opioid pain. It is a factor associated with inadequate training on these drugs. They are very effective for the right patients. They should be used carefully, but they can be used in the long run. There is a small risk of addiction. But studies show that the risk is small when used properly. When prescribed because, pain specialists often use combinations of medications, such as new prolonged-release antidepressants. The combination of drugs allows us to reduce the amount of opioids and leads to better pain control, because the mechanism of action of opioids is different from other drugs, such as antidepressants and antiepileptics. This approach is critical to treating neuropathic pain, such as diabetic neuropathy. Tramadol (Ultram ER) is a non-opioid drug that acts on opioid receptors. It is indicated in moderate to moderate pain, when continuous pain management is required. Synthetic opioids do not appear to be addictive. They are effective in treating many different pain syndromes. Many doctors prefer them before moving on to opioids.

Among the newest opioids for pain controls are: The Duragesic transdermal patch for the treatment of moderate to severe pain. Provides continuous supply of opioid fentanyl for 72 h. More options for pain flares: There are two fast-acting drugs that contain fentanyl. They were developed for cancer patients who have sudden pain and are already taking opioids for cancer pain. Fentanyl citrate (Actiq)

comes in the form of a lollipop and Fentora is a soluble tray in the mouth.

The Following Procedures can also help Control Pain

Nerve blockages

When a group of nerves causes pain in a specific organ or area of the body, the pain can be ruled out by injecting a local anesthetic. This is a nervous breakdown. Injections and nerve blocks are more effective in treating acute pain. But also in patients with a depressed nerve, nerve blockages can alleviate the pain so that the patient can function and start physical therapy. And if treatment is started early, the development of chronic pain will be prevented.

Radiofrequency ablation

A small area of nerve tissue is heated to reduce pain signals from that area. The procedure is performed under the guidance of CT imaging. A needle is inserted into the affected nerve area and an electric current is used to thermally destroy the target. A new technique, the application of high frequency pulses, offers only neurotransformation, without leading to nerve damage, as the temperature does not exceed 45°C. The control of chronic pain lasts from 3 to 6 months. This is a great advantage, because it is a much localized and very specific treatment for pain. It's not a panacea, but it can really make a difference in some cases.

Tens

Tens percutaneous electrical nerve stimulation. The treatment is useful for short-term pain relief. It includes a small device, which distributes low level electricity and helps to exclude pain. It is very useful in the treatment of various types of muscle pain and is often used with infusions at trigger point (myoperitoneal trigger points, which are alginate in pressure, parts of the body).

Trigger point injection

These are sore spots on muscle or connective tissue. They can sensitize the nerves around them and cause pain in other parts of the body. Particular sensitivity can also develop in nearby muscles or areas of the body. An injection of a local anesthetic (sometimes with a steroid) is given into the trigger point to relieve the pain. It usually requires only a few treatments to resolve the trigger point and the pain that arises from it. It is a relatively simple and safe process.

Pain pacemakers

The technique is called electrical spinal cord stimulation and involves a pacemaker (neurostimulator) implanted in the body. The neurostimulator provides low-level electrical signals to the spinal cord or to specific nerves and blocks the transmission of pain to the brain (electrodes are placed in the epidural space and connected to the neurostimulator). The patient can adjust the on/off switch and adjust the intensity of the electrical signals. Electrical stimulation of the spinal cord is applied when other techniques have failed, as well as when a cancerous pain has infiltrated a nerve root. Implantable drug delivery pumps. These are also called intrathecal pumps because they send analgesic drugs to the spinal cord. Local anesthetics, Opioids and other analgesics can be given through these implantable pumps. At the touch of a button, it is injected analgesic and nerve block, so as not to transmit pain to the spinal cord. These pumps are often used in cancer patients, but also in patients who have tried drugs but developed side effects. The dosage is much lower than that of the oral one, so the side effects are less. There is also a psychological benefit

to pumps, as controlling pain can help in the prevention of post-traumatic stress.

Surgery

Surgery can help in some cases. Removing a tumor can offer pain relief, as can shrinking a tumor with radiotherapy. In neurosurgery, nerves are cut to control the pain.

Advice for Better Treatment of Chronic Pain

It is very difficult to live with a chronic pain, which leads to depression, anxiety, anger and can aggravate the pain. Negative emotions reduce the body's endogenous opioids and increase its sensitivity to pain. When chronic pain settles, the person's life shrinks to give way to pain. Activities are limited and this perpetuates the vicious cycle of pain as the perception of pain becomes worse. Health, work and interpersonal relationships "bleed". Sleep and mood disorders perpetuate the sensation of pain. With counseling, patients gain skills in managing chronic pain. They can also find solutions to everyday problems that cause them stress and depression.

Alternative approaches to chronic pain

Stress aggravates the pain, so a relaxation technique is great useful in all types of pain. When the patient is upset with something, his pain will rise several points on the pain scale. Biofeedback, for example, helps people train their minds to control bodily functions such as muscle tension, respiration and heart rate, leading to a reduction in stress and stress responses [7]. Relaxation techniques are an important part of treating pain. Deep breathing, meditation, guided mental imagery, and hypnosis allow the mind to help the body. Regular exercise helps reduce stress and promote relaxation, which helps relieve chronic pain. Acupuncture, a traditional Chinese technique, has earned the respect of Western medicine. The National Institutes of Health recognizes acupuncture as an effective way to treat pain, especially in headaches and back pain, and suggests that

the technique may help with other chronic pain conditions, such as arthritis, fibromyalgia and muscle aches [8,9]. Acupuncture is extremely useful with pain and more and more insurance companies abroad are covering acupuncture treatments [10,11].

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