Psychogenic Pain Disorder - Differential Diagnosis and Treatment

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Introduction

“Pain is relevant to mental impairment, since mental illness may change the perception of pain, for example, making it the object of an obsession or a somatic (bodily) expression of an emotional problem. However, it can be extremely difficult to determine whether pain is a symptom of a mental impairment. Usually a multidisciplinary approach is required.”

Accounting for over 35 million office visits a year, pain represents the most prevalent reason why an individual chooses to seek out medical treatment. So prevalent, in fact, research has shown that the cost associated with the treatment of pain exceeds the costs attributable to the treatment of other disorders, such as heart disease, respiratory disease, or cancer. Chronic pain and associated disability are often life-altering conditions, have a profound psychosocial impact, and psychiatric conditions are common in such patients.

The research literature suggests that psychological difficulties are common among patients with pain. Left undetected and untreated, these difficulties may impede a patient’s progress in treatment and lead to long-lasting symptomatology.

Effective treatment requires that the clinician not only identify the biological, psychological and social aspects of a condition, but also understand how each component interacts.

According to DSM IV- TR, Pain disorder is a somatoform disorder in which the predominant focus of the clinical presentation is pain in one or more anatomical sites. The diagnostic characteristics specified within the DSM IV- TR for the diagnosis of Pain Disorder includes the following:

A. Pain in one or more anatomical sites is the predominant focus of the clinical presentation and is of sufficient severity to warrant clinical attention.

B. The pain causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.

C. Psychological factors are judged to have an important role in the onset, severity, exacerbation, or maintenance of the pain.

D. The symptom or deficit is not intentionally produced or feigned (as in Factitious Disorder or Malingering).

E. The pain is not better accounted for by a Mood, Anxiety, or Psychotic Disorder and does not meet criteria for Dyspareunia.

Over the years there have been a number of criticisms of DSM-IV pain disorder. Some have questioned whether there needs to be any diagnosis in DSM to deal with pain. Others have criticised its requirement that judgements be made regarding the contributions of psychological factors and general medical conditions to the pain. Many have felt that it didn't allow a sufficient level of detail in the diagnosis. However, at no time during the process of writing DSM-IV or DSM-IV-TR did anyone suggest a practical alternative.

In May 2013, the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) was published by the American Psychiatric Association. There are many changes in the names and diagnostic criteria of certain psychiatric disorders that are frequently encountered in work related injury cases. The diagnostic criterion for pain disorder that was included in the DSM-IV-TR has been eliminated in the DSM-5.

Instead, pain disorders are now included within a new diagnostic criterion called Somatic Symptom and Related Disorders. The common feature of this disorder category is that individuals have “somatic symptoms associated with significant distress and impairment.”
The introduction to this new disorder includes the description of the diagnosis to be made “on the basis of positive symptoms and signs (distressing somatic symptoms plus abnormal thoughts, feelings, and behaviours in response to these symptoms) rather than the absence of a medical explanation for somatic complaints.”

**Psychogenic Pain Disorder**

Psychogenic pain is a pain disorder associated with psychological factors. Some types of mental or emotional problems can cause, increase or prolong pain. A person with a psychogenic pain disorder may complain of pain that does not match his or her symptoms.

Psychogenic pain describes both short- and long-term episodes of pain that occur as the result of some underlying psychological disorder, rather than in response to some immediate physical injury. Brief episodes, as well as persistent symptoms, are indeed very real and painful for those experiencing psychogenic pain.

Although some cases of psychogenic pain occur in response to a previous injury, in rare cases, the pain stems purely from a mental ailment. In most cases, however, psychogenic pain causes existing pain as the result of some physical stimulus to feel more intense. Because the brain is the centre for deciphering levels and location of discomfort, individuals with an underlying emotional disturbance are at higher risk for exhibiting psychogenic pain.

Another feature of psychogenic pain is that it can be one of two types:
- acute (pain that spikes briefly and then goes away)
- chronic (pain that persists and recurs over the course of weeks, months or even years).

The diagnosis of psychogenic pain is made only when all other causes of pain are ruled out. A person with psychogenic pain disorder will complain of pain that does not match his or her symptoms. Medical doctors and mental health specialists working together are often most helpful to those with this disorder.

**Causes of Psychogenic Pain**

Experts have come up with three theories that claim to identify the causes of psychogenic pain:

Theory 1: Underlying psychological factors cause psychogenic pain. These include:
1. anxiety disorder
2. bipolar disorder
3. depression
4. obsessive-compulsive behaviour
5. panic attacks.

Theory 2: Psychogenic pain results from some previous injury that hasn’t yet fully healed. In this theory, emotional issues result from (but don’t cause) the pain and can intensify it if the underlying physical cause of the pain isn’t treated.

Theory 3: Psychogenic pain causes existing pain to feel worse than the situation actually warrants. According to this theory, psychological issues cause patients to feel exaggerated, more intense pain by comparison to the extent of physical injury or disease. While their sensations of pain are real, the underlying mental disorder plays a role in intensifying the pain.

**Symptoms of Psychogenic Pain**

Psychogenic pain disorders, when chronic, produce a variety of symptoms. The pains can be mild to severe and dull or sharp. Generally, psychogenic pain causes the following symptoms:
1. constant discomfort despite taking medication
2. difficulty describing the location, quality and depth of pain
3. non-localised pains that encompass larger parts of the body

If these symptoms exist in absence of any chronic disorder with physical cause, the patient likely suffers from psychogenic pain.

**Psychogenic Facial Pain Disorder**

Facial pain is a psychosomatic disorder and patients are believed to be psychologically vulnerable and should benefit from psychological support rather than from treatment based on the occlusal adjustment.

Chronic idiopathic facial pain is a common problem that confers a real challenge for many medical and dental specialists. There are many symptom complexes of facial pain i.e. myofacial pain dysfunction syndrome, atypical facial pain, atypical odontalgia and oral dysaesthesia. Although described as separate conditions, these symptom complexes are interrelated, and frequently occur at different stages or may coexist in the same patient. Also, the idiopathic facial pain is frequently associated with other chronic pain conditions such as back pain, headache, irritable bowel and pelvic pain; a condition that is described as whole body pain syndrome.

A biochemical basis for chronic facial pain was suggested because of its association with depression and the response to tricyclic antidepressants. Chronic pain patients have shown hypercortisolaemia and abnormal dexamethasone suppression test responses. Also impaired excretion of tyramine sulphate has been recognised as a trait marker for chronic facial pain.

Pain of emotional origin is common, especially in the orofacial region, and it is clinically and professionally not acceptable to assume that the patients’ complaints are something they do imagine. Also it is well known now that in most pain conditions the same peripheral structural and biochemical disturbances
are responsible for the symptoms of pain whether it is of psychogenic or organic origin, and so it is difficult to distinguish between the quality and the intensity between the two.

As clinicians we have to recognise that a long-standing pain condition without specific aggravating or relieving factors, and without any radiological or neurological signs should be classified as pain of psychogenic origin that is lacking any organic structural origin.

Psycho- Pharmacological Treatment

Once a diagnosis has been made, patients will begin to work closely with pain specialists, therapists or psychiatrists and any other required specialists to treat both the physical and mental causes of their conditions.

Role of NMDA Receptors

NMDA (N- methyl- D- aspartate) receptor is the key receptor which is activated by the neurotransmitter glutamate. When more amount of glutamate is released it can bind with these NMDA receptors leading to increased time duration of the channel to be open leading to the entry of Ca\(^{2+}\) ions. All this leads to the amplification of pain. This increased excitability of the cell leading to amplified response to pain known as hyperalgesia.

The psychopharmacological treatment includes the use of SNRIs, alpha 2 delta ligands, TCAs, anticonvulsants and benzodiazepines.

Conditions targeted with intervention

1. Affective Spectrum disorders: Mood disorders, Anxiety disorders.
2. Painful Somatic Disorders: Fibromyalgia, Irritable Bowel Syndrome, Migraine
3. Functional Somatic Syndromes: Somatoform Disorder, Chronic Fatigue Syndrome
4. Others: Attention deficit and Hyperactivity disorder, Bulimia Nervosa, Cataplexy.

Treatments for peripheral pain include medications such as NSAIDs and opiates with a minor behavioural and psychiatric comorbidity. Central pain includes medications such as SNRIs, Alpha 2 delta ligands like pregabalin, TCAs and anticonvulsants with prominent behavioural factors and psychiatric comorbidity. Mixed pain treatment involves medications prescribed for both peripheral and central pain treatment.

Selective Noradrenaline Reuptake Inhibitors

SNRI leads to descending inhibition in both spinal noradrenergic neurons and serotonergic neurons.

These suppress nociceptive input (e.g. regarding muscles/ joints or digestion) from reaching the brain and thus prevents it from being interpreted as painful.

Prescribed drugs include:
1. Duloxetine: This may reduce symptoms, but rarely eliminates them completely. Symptoms can recur after medication is stopped. The average dosage for the medication is 60 to 120 mg/d.
2. Milnacipran: It has a delayed onset of therapeutic action (2-4 weeks). If it is not working within 6-8 weeks it may require a dosage increase or it may not work at all. The average dosage for this medication is 25 to 200 mg/d.
3. Venlafaxine: It mediates pain in a similar manner to Duloxetine, although not FDA approved.\(^2\)

Alpha 2 Delta Ligands

Alpha 2 Delta Ligands lead to central sensitisation. In the CNS, strong or repetitive action potentials can cause prolonged opening of calcium channels. It may further lead to excessive release of NT into the synaptic cleft, and consequently, excess stimulation of postsynaptic neurons leading to molecular, synaptic and structural changes including sprouting, which are the theoretical substrates for central sensitisation syndromes.

Alpha 2 Delta Ligands bind to the alpha 2 delta subunit of voltage sensitive calcium channels that changes their conformation to reduce calcium influx and therefore, reduce excessive stimulation of postsynaptic receptors.

Drugs administered:
1. Gabapentin: This is a structural analogue of GABA. The average dosage range is 300 – 1800 mg/d.\(^3\)
2. Pregabalin: This molecule is structurally different to gabapentin. It is a chiral compound with the S-enantiomer being physiologically active. As compared to gabapentin, pregabalin has a higher affinity to Alpha 2 Delta subunit. The advantage of pregabalin is its fast onset of action, linear pharmacokinetics which leads to predictable drug levels and a quicker dose adjustment. The dose is 75 mg twice daily which may be titrated up to 300 mg twice daily.\(^4\)\(^-\)\(^7\)

Tri cyclic Antidepressants

Tri cyclic Antidepressants enhance influence on the activity of norepinephrine (NE) and serotonin (5- HT) in the descending pain modulation pathways of the spinal cord, projections that inhibit ascending pain signals.

Recent studies have concluded that TCAs may work by blocking sodium channels, similar to local anaesthetics and antiarrhythmic agents.\(^6\)\(^-\)\(^9\)

Prescribed Drugs include:
1. Amitriptyline: With high sedation it leads to high anticholinergic side effects. The average Dosage Range being 10- 100 mg/d.
2. Amoxapine: With low sedation it leads to moderate anticholinergic side effects. The average dosage range being 50-100 mg/d.
3. Clomipramine: With low sedation it leads to low
anticholinergic side effects. The average dosage range being 25-100 mg/d.

4. Desipramine: With low sedation it leads to low anticholinergic side effects. The average dosage being 25 - 100 mg/d

**Anticonvulsants**

The anticonvulsants play a major role in analgesia by blocking the activity of sodium channels, stabilising the pre-synaptic neuronal membrane, decreasing the release of excitatory neurotransmitters and reducing the spontaneous firing of damaged or recovering nociceptive fibres.

Prescribed Drugs include:

1. Phenytoin
2. Carbamazepine

**Benzodiazepines**

There are inhibitory nerve cells located in the spinal dorsal horn which release GABA (amino butyric acid) in the synapses. GABA activates chloride channels on neighbouring cells which relay pain signals of the brain. In chronic pain patients, pain inhibiting action of GABA is compromised.

Prescribed drugs include:

1. Temazepam: It treats insomnia and depression
2. Lorazepam: It reduces anxiety and depression

There is ample validity for the use of psychotropic medications to control and manage pain. Care should be taken to choose correct medication as appropriate to patient’s symptoms and expectations.

**Alternative Therapies for Pain Management**

For some people, pain can be relieved without using medicine. They use relaxation, imagery, distraction, and skin stimulation. One may need the help of health professionals to learn to do these for oneself. Friends or family members can help with some of them. The techniques are also useful along with pain medicines. Information about nondrug treatments for pain also may be available at a local hospice, cancer treatment centre, or hospital pain clinic.

After the physical pain has been dealt with, patients are ready to seek their therapists or psychiatrists to pinpoint and work on their psychological disorder(s). Initially, these mental health specialists will construct a psychological profile that factors in the patient’s family medical history, his/her personal medical history and lifestyle habits and choices. Then, over a series of sessions, the patient and the specialist will attempt to identify the sources and triggers of, as well as the treatment strategies for, psychogenic pain.

Alternative treatment options for psychogenic pain include:

1. **Relaxation**: Relaxation relieves pain or keeps it from getting worse by reducing tension in the muscles. It can help the patient to fall asleep, give more energy, feel less tired, reduce anxiety, and make other pain relief methods work better. Some people, for instance, find that taking a pain medicine or using a cold or hot pack works faster and better when they relax at the same time.

2. **Biofeedback**: Biofeedback is a pain management technique that teaches the patient to consciously affect normally involuntary bodily functions, such as heart rate, muscle tension, and blood pressure. The idea is that by becoming aware of these functions, and specifically how they correlate to pain, one can adjust them in accordance with pain symptoms. Research is inconclusive as to why biofeedback helps decrease pain, but one theory is that it simply helps the patient relax, which in turn reduces physical symptoms that can be worsened by stress. Electromyography, or EMG, measures muscle tension and is the type of biofeedback that has been shown to be most helpful in pain management.

3. **Imagery**: Imagery is using one’s imagination to create mental pictures or situations. The way imagery relieves pain is not completely understood. Imagery can be thought of as a deliberate daydream that uses all senses - sight, touch, hearing, smell, and taste. Some people believe that imagery is a form of self-hypnosis. Certain images may reduce pain both during imagery and for hours afterward. If one must stay in bed or can’t go out of the house, he/she may find that imagery helps reduce the closed-in feeling; can imagine and revisit favourite spots in his/her mind. Imagery can help relax, relieve boredom, decrease anxiety, and help sleep.

4. **Electrotherapy**: The most commonly known form of electrotherapy is Transcutaneous Electrical Nerve Stimulation (TENS). TENS therapy attempts to reduce back pain by means of a low-voltage electrical stimulation that interacts with the sensory nervous system. Randomised controlled trials have yielded either positive or neutral results regarding the efficacy of TENS as a treatment for back pain. TENS users need to try the unit for several days with several electrode placements prior to deciding if it will be useful.

**Effective Treatment Plan**

Treating chronic pain can be challenging. And it may take several types or combinations of treatments before relief is achieved. Treatment should be sought if the pain lasts longer than 2 to 3 months. Early treatment may prevent the pain from getting worse. The goals of treatment are to reduce pain and increase ability to function. This includes improving sleep and coping skills and reducing stress so as to quicken return to regular activities.
It is important to build a clear treatment plan. Part of this plan includes identifying ways for the patient to manage his/her pain. Only the patient knows the severity of his/her pain and how it affects his/her life.

Without treatment, individuals suffering from psychogenic pain may undergo negative lifestyle changes, including:
1. alcohol abuse
2. drug abuse
3. fatigue
4. irritability
5. isolation
6. loss of sleep
7. memory loss.

**Conclusion**

Pain disorder may be prevented by early intervention i.e., at the onset of pain or in the early stages of recurring pain. When pain becomes chronic, it is especially important to find help or learn about and implement strategies to manage the distress before inactivity and hopelessness develop. Most patients in pain first contact their primary care physician who may make a referral to a mental health professional or pain clinic. Many physicians will reassure the patient that a referral for psychological help is not stigmatising, does not in any way minimise the experience of pain or the medical condition, and does not imply that the physician believes the pain is imaginary.

There are few goals of Pain Management that needs to be fulfilled for the successful treatment of Pain Disorders:
1. Always engage the patient in the process of managing their pain.
2. The overarching goal of pain management is to optimise comfort and function in the face of inevitable deterioration.
3. Pain nearly always benefits from treatment, but perfect control may be hard to attain, especially initially. It is wise to be realistic.
4. Reassure the patient of an ongoing commitment to improving their pain control and build confidence that pain will be controlled with good communication, thorough assessment and regular review.
5. Some permanent modifications to life-style may be necessary to avoid incident pain. These changes are often the most difficult to achieve because they serve as a constant reminder of the progression of disease, highlighting the loss of ability and function.

**References**