PRESIDENT'S MESSAGE

Psychogenic Pain—What It Means, Why It Does Not Exist, and How to Diagnose It

The concept of psychogenic pain has stimulated controversy in the field of pain medicine, not only regarding its prevalence, but indeed its very existence. Some would even hold that the term is fundamentally meaningless. Whether meaningless or not, it is often hated—by physicians in pain medicine whose patients have been harmed by not having been taken seriously, and by patients who experience the unspoken judgment that, “since there’s nothing wrong with your body, there must be something wrong with you.”

Although this appears to be a question of fact, our recent presidential election demonstrates that interpretations of events are subject to distortion by biases, and there is a surfeit of bias surrounding the question of psychogenic pain.

The IASP defines pain as an experience, and it could be concluded that, since all experiences are psychological phenomena, the term psychogenic pain is a meaningless tautology, much like psychogenic joy. Pain has even been called “a localized form of sorrow” by Spinoza. The acknowledged duality of pain—the fact that it is both sensation and emotion—is reflected in anatomy and physiology. Its affective components may transit the spinoreticular tracts en route to the anterior cingulate cortex, while its algosity, to borrow a term [1], may traverse the spinothalamic tracts toward the sensory cortex. Yet this emotional part of pain does not resolve the question. One could argue that every thought, emotion, and fantasy is at some level a neurochemical event, so that everything is ultimately “organic,” i.e., not psychogenic. Nevertheless, it may be useful to explore the concept to determine whether it has value.

Perhaps the biases should be addressed first, since they affect perception. You have to believe it to see it, as it were.

Disincentives to Recognition

The imperative that physicians work on behalf of their patients leads naturally to a desire to protect them from stigmatization, which is integral (in our culture) to a diagnosis of psychopathology. It is unclear whether the evolution of nomenclature (hysteria, conversion, psychogenic pain, somatoform pain disorder, pain disorder) was primarily a search for better science or a search for a euphemism. Unfortunately, euphemisms become terms of opprobrium so long as the concepts with which they are linked are disparaged. Certainly the diagnosis is sufficiently hated that we might refer to it as “the P word.”

Even more troubling to patients than the suggestion of psychological illness may be the threat of loss of validation. All pain physicians are aware of the struggle of patients in pain for validation of their invisible illness, and we have all heard them wish aloud that they could bleed so that others would know that their pain was genuine. Given the belief that what is psychogenic is somehow unreal or illusory, such a diagnosis is a great fear. Psychiatric/psychological referral of pain patients has been understandably referred to as adding insult to injury.

Physicians and patients alike may see a psychogenic diagnosis not as dismissive of serious occult pathology, but as dismissive of the patient and his/her suffering, and therefore to be avoided.

There may also be less noble reasons for dismissing psychogenic pain as an entity. Those who advocate for plaintiffs gain from emphasizing the “organic” nature of the complaint, as do those who manufacture and prescribe analgesics, adjuvant drugs, and implantable technology.

An additional source of skepticism is the diminished credibility of the attribution to psychic causes of things not understood. The situation resembles that of the ancient gods, who were invoked to explain whatever couldn’t be explained with current knowledge. Their purview waned as more prosaic causes of such events as eclipses and thunder were identified. Similarly, the hypersensitive left knee after an injury to the right one strains credulity until it is demonstrated in the rodent. This, of course, is only one of many instances of pain in “perfectly healthy” body parts that could have been deemed not to be “organic,” along with even more instances of conditions that “couldn’t hurt that bad.” Thus, there is egg on the face of those who have equated unexplainable with psychogenic. The concept of psychogenic pain was further weakened by the fact that its diagnostic signs have been challenged [2].
While some are benefited by skepticism regarding the diagnosis of psychogenic pain, others are benefited by its acceptance. This is particularly true in those who must pay compensation or disability income, those who plead for defendants, and those who pay for health care. Perhaps even the chagrin of physicians may be assuaged by concluding that surgery corrected the real problems and the residual complaints are psychological (and presumably therefore the patient’s fault).

What Does Psychogenic Pain Mean?

Is it meaningful to aver that pain is caused by the psyche? Webster’s defines psyche thus: (1) Class. Myth. A personification of the soul, which in the form of a beautiful girl was loved by Eros; (2) the human soul, spirit, or mind; (3) the mental or psychological structure of a person, especially as a motive force.

The psyche seems an object of great ambivalence. It is that which the androids of science fiction all wish they had, and that which pain patients seem to wish they hadn’t. It may be the human faculty of which we’re most proud, yet most ashamed. It makes us CEOs and bums, heroes and villains, yet we minimize its significance.

Webster’s also defines mental as pertaining to the mind, while it defines mind as psychic or spiritual being, as opposed to matter; the part that reasons, thinks, feels, wills, perceives, judges, etc.; the totality of the conscious and unconscious mental processes and activities of the organism. These definitions have a circularity about them, which reflects the ineffable nature of the concept.

I will use psychological to encompass the functions of beliefs, thoughts, feelings, and behaviors. Further, I will attempt to distinguish the experience of pain from pain behavior, despite the difficulty of demonstrating pain in organisms other than through pain-associated behaviors.

Potential Psyche—Pain Relationships

Psychic Consequences of Pain

There seems no dispute, either of the affective component of pain, or of the depression, anxiety, demoralization, and irritability that often follow it. People vary as to whether the dysphoria is more a reaction to the pain or to the losses of life style and autonomy that it may entail, but that is another subject.

Psychic Causes of Pain

Unlike psychogenic pain, other psychogenic symptoms can be confirmed. Conversion blindness preserves the optokinetic reflex; psychogenic seizures occur during a normal EEG recording; conversion anesthesia does not diminish the sensory evoked potential; and psychogenically paralyzed extremities move during sleep or with distraction. Such confirmation is unavailable in the case of pain.

Most demonstrations of psychogenic pain involve acute pain created in the laboratory, so their relevance to clinical chronic pain is undetermined. Placebo arms of new drug trials invariably document headache, abdominal pain, or other symptoms [3]. When treated with a functionless machine, 5 of 58 chronic pain patients dropped out because it worsened their pain. Sham magnetic therapy significantly increased pain in 11% of trials [4]. More than two-thirds of a sample of college students reported mild headaches when told that a (nonexistent) electric current was passing through their heads [5]. Perhaps the strongest demonstration of psychogenic clinical pain is failure of dense sensory-motor blockade to relieve persistent extremity pain. Whether from conditioning or such factors as beliefs, expectations of pain do seem to produce pain despite the absence of noxious perceptual stimulus, and such perception is reflected in functional MRI changes in the expected regions of the brain [6]. Primates presented with tasks requiring attention to painful stimuli show activation of medullary “on-cells” that facilitate pain transmission—prior to the presentation of the actual pain [7]. Clinically, this suggests that patients who have come to expect that particular activities produce pain will find that they do produce pain, which promotes the inactivity and deconditioning so detrimental in chronic pain.

The provocation of chest and abdominal pain by panic attacks is so well known that it is joked in some institutions that panic disorder cannot be treated until the patient has first undergone coronary angiography and esophagogastroduodenoscopy.

An old literature demonstrates that most patients with severe depressive illness also have pain [8–11]. It is probably not possible at present to say whether the depression is experienced as pain, or whether the perceived affective and physical suffering are different manifestations of the same neurochemical pathology.

Provocative studies that are only indirectly related to the question confirm that emotional states induced by fantasy or films are associated with PET scan-confirmed cortical changes [12,13]. These changes are “real,” which suggests that pain produced by beliefs and fears will be equally so. Some quirk seems to have resulted in derision of things psychological, as though they were somehow trivial. It is a word
Psychological Modulation of Pain

The evidence that psychic factors can reduce pain is compelling, and stories of athletes and soldiers who were oblivious to injury during periods of intense stimulation are well known. Distraction is one of the more obvious pain mitigating factors, and it was recently demonstrated with PET scanning that cortical activation from induced pain is reduced by a distracting cognitive task [19]. Descending inhibitory tracts may be subject to psychological influence.

Hypnosis is certainly a psychological process, and, in a fascinating study, was found to be capable of selectively attenuating the anterior cingulate cortex without reducing somatosensory activation in response to suggestions that targeted only the “unpleasantness” of pain and not its intensity [20]. Hypnosis also appears able to reduce sensory components of pain as well [21].

There is also evidence that pain can be augmented by such psychological factors as negative beliefs (or bewilderment) concerning the cause of pain, and negative beliefs regarding the person’s capacity to cope.

In addition to descending pain inhibitory tracts, there is also a descending pain facilitatory tract located in the dorsolateral funiculus. Significantly, these tracts are activated by electrical or glutamate stimulation of the anterior cingulate cortex, a region considered important in affective responses.

Psychological Modulation of Communication and Other Pain Behavior

Conceptually, we can consider the expression of pain separately from the experience of pain, and a number of factors extrinsic to the organism demonstrably modify it—a child’s stomachache before the circus is likely to be expressed differently than one before church. Such behaviors as physical function and complaints serve as markers by which pain is judged; however, voluminous literature demonstrates that these markers reflect social and environmental factors as much as they reflect pain. It has been shown, for example, that patient ratings of pain severity diminish when “well talk” is reinforced. With repeated identical pain stimuli, intensity reports vary with feedback. Verbal reinforcement increases performance in back pain patients. Spouse solicitousness is correlated with pain behavior [22]. Pain complaints are quite likely to be exaggerated by any person who feels that strong emphasis is required in order to be taken seriously. We commonly think of factors that increase pain behavior, because these are the patients who come to pain physicians; however, minimization of pain would be expected in situations that provide powerful incentives for appearing healthy.

Prospective studies show that onset of disabling pain is highly associated with job dissatisfaction, lack of support at work, stress, and perceived inadequacy of income [23–26]. Once initiated, the progression of pain to chronicity is contingent on similar factors [27,28]. Financial compensation, receipt of sickness payments, and compensation-related litigation are also associated with chronicity, as are poor education, language problems, and low income. Chronicity is also favored by such personality factors as tendencies to catastrophizing and somatization [27,29]. Even in patients with clear-cut radicular pain with disc prolapse/protrusion, application for retirement at 6 months was best predicted by depression and daily hassles at work [30]. In the case of injured workers, performance on functional capacity evaluation is reduced if the worker is informed that the test results will be used to determine work classification [31]. Industrial injuries and compensation situations appear to provide a disproportionate number of patients with such issues [32–35].

Litigation may adversely affect recovery from trauma, perhaps especially when the pathology is ambiguous. This is indirectly supported by the rarity of whiplash in situations where litigation is uncommon, compared with the US, where whiplash/neck sprains make up two thirds of all bodily injury claims [36]. It may be significant that the rate of compensated whiplash in Saskatchewan, which has a no-fault system, is 10 times that of Quebec, which has a no-fault system [37] and that eliminating compensation for pain and suffering seems to have had the effect of reducing whiplash-related morbidity [38]. Long [39] studied more than 2000 LBP patients.
with no more than 1 previous operation and noted that all those working at the time of initial visit returned to work, with the exception of those in litigation, of whom not one returned to work. This vocational failure was despite success on other outcome variables equal to those not litigating. Blake and Garrett found that litigating patients improved as much as others in a multidisciplinary pain management program, with the exception of the quality of life score, in which they showed no significant improvement [40].

It seems clear that pain complaints and reports of inability to function increase when there are positive incentives for illness. They also increase when work is an adverse experience, whether due to a hostile work environment or to limitations on the part of the worker. What is less clear is the extent to which these factors modify the pain experience. The illness behavior does produce other forms of suffering, as the person regresses physically and emotionally, withdraws from life, and becomes debilitated.

**Counterfeit Pain**

Factitious illness and malingering should not be considered psychogenic pain but rather simulated pain. The urban legends of pedestrians’ having to be restrained from entering rear-ended city buses so that they could claim whiplash injury are about avarice, not pain. Malingering, the use of willful deception for a covert purpose, is declared to be quite acceptable [44]. These studies suggest that factitious representation of compensation claims to be acceptable [45]. Among 333 people who claimed compensation for noise induced hearing loss, the incidence of exaggeration on hearing tests (as determined by cortical evoked response audiometry) was 17.7% [43]. Weintraub cites studies showing that 20–46% of people considered purposeful misrepresentation of compensation claims to be acceptable [44]. These studies suggest that factitious illness and malingering may not be rare, but do not provide information as to how often they simulate pain. They do suggest keeping an open mind as to the possibility of these phenomena, which are probably less common in those seeking treatment than in those seeking compensation.

**Mixed, Interactive Components**

There is no reason to suspect that these mechanisms are in any way mutually exclusive. They would, in fact, be expected to occur concurrently and in concert with nociceptive pain. Addiction, for example, is common in abuse victims, as is somatization disorder. Addiction would create powerful incentives for exaggerating pain, while trough levels of some substances (opioids, benzodiazepines) are associated with hyperalgesia. Thus a tangled web of interacting factors is presented to the clinician. If deactivation reduces pain threshold, then inactivity that began as a form of exaggerated pain behavior could become generative of pain.

**Diagnosing Psychogenic Pain**

**Is It Best Not to See It?**

Perhaps the first question regarding this diagnosis is whether it is best not made. We know that it is a false kindness if we “overlook” a diagnosis of addictive disorder while a person develops cirrhosis, peripheral neuropathy, and cerebellar degeneration, but we should consider whether patients are better off if we simply take their pain complaints as prima facie evidence of activity in the neural structures that subserve pain. The question is not absurd. Publications decry the misdiagnosis of “real” illnesses as psychogenic, and every clinician has a fear of missing organic illness in this fashion; yet concerns about the opposite error seem few. This is a puzzling phenomenon.

One of the early diagnostic criteria that students were taught to recognize “hysteria” was the presence of the “battlefield abdomen”—the patients had undergone so many laparotomies that their abdomen looked as though combat had occurred there. The patients did not inflict the wounds that left these scars, rather they were inflicted by compassionate physicians who took their complaints literally. We continue to damage patients when we ignore psychogenic pain. Avascular necrosis from unnecessary steroids, complications of implantable technologies, failed back surgeries, adverse drug effects, and unwarranted disability are all complications of applying chemical and mechanical remedies for problems that are largely psychologically determined. The expense of repeated futile interventions goes without saying. It amounts to repairing hardware when the problem is with the programming. Thus, it is not a virtue to look the other way.
Diagnostic Clues

Our official diagnostic guides do not tell us how to determine that psychological factors contribute to a serious pain problem, which is a reflection of the difficulty of this issue. The following suggestions are offered as largely unsubstantiated aids.

In chronic pain, where signs of illness and injury are often healed, our principle tool for diagnosing pain is the patient’s behavior, which includes verbal communication. It is therefore important to assess the reliability of this tool. A primary step in radiographic interpretation is assessment of image quality. Incorrect exposure, motion artifact and other technical deficiencies may weaken the conclusions that can be drawn. Inappropriate pain behavior, embellishment, and symptom magnification are not uncommon, particularly in medico-legal circumstances and entitlement programs, and, when present, they weaken medical conclusions that can be drawn from behavior. Several observations can help assess the reliability of pain behavior as a guide to the patient’s experience.

Congruence with Known Conditions. In phantom pain the patient describes pain in an absent extremity. This does not evoke incredulity because the condition has been well known since long before its pathophysiology was understood. Similarly, a person with complex regional pain syndrome may describe exquisite pain on light touch of a healthy-appearing extremity following a trivial injury. A constellation of associated signs and symptoms helps to confirm that the complaint is consistent with a known syndrome. Intolerance of light touch over a region of the lower back in patients with mechanical back pain is not consistent with a defined disease process and fails to meet this criterion.

Most known conditions have such expected concomitants. Typically a patient would not watch television or read while waiting for a migraine to abate, and there would be an expected response to ergots, triptans, or other anti-migraine preparations. A patient with neuropathic pain would likely, but not always, show some response to certain antiepileptic drugs (e.g., gabapentin, carbamazepine) or antidepressants (e.g., tricyclics). A person with persistent pain of pancreatitis is unlikely to gain weight.

Consistency Over Time and Situation. Patients are seen who can tolerate only 10° forward flexions while standing, yet while sitting with legs outstretched can touch their toes. Others demonstrate collapsing with pain on manual testing of plantar flexion, yet can tiptoe. A patient may limp on one leg walking forward, the other walking backward, and not at all on a treadmill. Grip strength may be measured repeatedly and coefficients of variation calculated, though these methods have been criticized [45,46]. Rapid exchange grip strength testing may provide similar information [47]. Isokinetic strength testing may discriminate between maximal and submaximal effort. Complaints and dysfunction should be relatively independent of the observers present and should generally persist despite distraction. Gait disturbances and other pain behaviors that change dramatically in the presence or absence of certain persons are not likely to be of organic origin.

Consistency With Anatomy, Physiology. Waddell’s signs are perhaps the best known clues that pain behaviors may reflect more than organic pathology [48,49]. One example is that of axial rotation, in which the standing patient’s hips are rotated in each direction by the examiner. This essentially effects only the hips and ankles, leaving the pelvis and all above it to move as a unit. Exacerbation of back pain by this maneuver is considered abnormal. Pain drawings may also provide suggestions of symptoms that are incongruent with our understanding of disease processes and pain mechanisms.

Confirmatory Information. Collateral information from other evaluating professionals and relatives is of critical value in determining the consistency of patient behaviors, which helps to confirm that their relationship is to perceived pain and varies little with changes in observers.

The confirmation of malingering is extremely difficult and generally depends on intentional or inadvertent “surveillance.” Anecdotes abound of providers encountering wheelchair-bound patients strolling about a mall, or seeing a patient walking normally through a parking lot with their cane in the air. At times there are clinical signs of factitious illness, such as ligature signs in faux complex regional pain syndrome or phenolphthalein tests in laxative abuse.

Excessive Illness Behavior. It may be difficult to judge whether behavior is compatible with perceived pain. For example, since one cannot know how much leg pain a patient experiences on walking, it is hard to know whether an antalgic gait is exaggerated. Inappropriate illness behavior is suggested, however, by dysfunction in unrelated domains. For example, except in extreme situations, a patient with back pain should not require that the spouse complete a patient’s questionnaire—or his sentences. Chronic pain does not often preclude making one’s own phone calls to the doctor, paying bills, etc. When a person has delegated these functions to others, abnormal illness behavior is likely.
Cautions. While no one would conclude that because an x-ray was of poor quality there was unlikely to be pathology of concern, this non sequitur frequently occurs in the case of aberrant pain behaviors. Such behaviors should cause the physician to be uncertain, but not dismissive. Behavior is affected by many factors. The appearance of symptom exaggeration can be created by fear, or by having learned that certain actions or positions provoke pain. “Non-physiologic” signs may occur in dementia. Excessive or exaggerated pain behaviors can be a response to feeling discounted or mistrusted, so that one must emphasize symptoms to persuade the physician of their reality. Anyone might dramatize a problem in an effort to have it taken seriously. Thus, symptom magnification can be an iatrogenic phenomenon that occurs when patients feel mistrusted or poorly cared for.

Pain As Problem, Pain As Solution

What are we to make of the too happy pain patient who reports an extreme level of pain (often > 10/10) and whose scores on depression indices are several times the threshold for severe depression, yet who is frequently seen in animated and jocular conversation with peers, sleeps well, and appears comfortable? Clearly, there is a continuum of severity of pain experience and suffering. There is also a continuum of gains and losses associated with illness. It seems that if the experience of pain is minimal, and the gains of illness far outweigh the losses, then the person has little reason for unhappiness, but considerable reason to report high levels of symptomatology. For such individuals, pain is more of a solution than a problem.

Terminology

While the terms hysteria, conversion, psychogenic pain, and somatoform pain disorder have been criticized as stigmatizing to patients, they (along with “central pain”), have also been used to de-stigmatize malingerers and exaggerators. Perhaps it would be clearer to use the term psychologically augmented pain for those whose suffering is thought to be in part derived from emotional factors, and to use the term excessive illness behavior for conscious or unconscious exaggeration.

Management

The person suffering a great deal of pain that is psychologically induced evokes sympathy and a desire to help. Unfortunately, the treatment may miss the target if the diagnosis is missed. In these situations, our motto “pain is the disease” is incorrect, and treatment should be directed toward the genesis of the suffering.

The person who complains of great pain, yet has obvious inconsistencies and spurious findings on examination may evoke suspicion, especially if in litigation or seeking a disability entitlement. They may also provoke anger in caregivers who find their repeated efforts to help thwarted. Perhaps this explains such epithets as “turkeys” and “crock.”

A key issue in the management of such patients may be to address the negative attitudes that trainees and staff have toward them. The following may be useful.

Evolution would seem to mandate that organisms have at least a propensity to act in their perceived best interests. If opossums can play dead to escape a predator, it shouldn’t surprise us that humans can play sick. The person who suffers from a bad back, a job that is tenuous, and a lack of marketable skills may have no assurance of income and health care for his family except through his disability. It is understandable that such a person might exaggerate symptoms of illness.

The needs that seem to motivate inordinate illness behavior are rarely a desire to strike it rich. Rather, patients seem to be reinforced by needs for security, to feel loved, to avoid intolerable situations, or, in the case of those with addictive disorder, to obtain substances. When staff deprecate the patient who is “just looking for a free ride,” they may be asked to consider whether they’d willingly trade places with the patient. It is easy to be contemptuous if the sought-after gain is a big settlement, harder if it is to escape a painful, hazardous, or abusive workplace in which one is trapped by training, language, or other handicaps. An understanding of the exigencies of these patients’ lives will often help care givers form a non-judgmental alliance with the patients in order to help them find more adaptive solutions to their problems than the adoption of the sick role.

Conclusions

There is good reason to believe that psychological factors can generate pain, and that the experience is as genuine as that produced by the known pain transmission pathways. We accept that the pain of aortic aneurysm radiates to the back, but may not the pain of despair also radiate to the back? Pain exaggeration is a different thing, though it is likely
that behaving as a pain patient for a long period of time can become painful. Orthopedists learned long ago that they are unable to correct this with surgery, and we are finding that we cannot correct it with opioids, stimulators, facet denervations, or IDET.

We may face a dilemma in the person who has mixed organic and psychogenic pain, that being the choice between withholding treatment from someone because they have a psychological problem versus providing expensive and potentially harmful treatment to someone with little likelihood of benefiting.

The specialty of pain medicine has struggled for credibility, and part of the struggle has been to demonstrate the reality of the invisible condition we treat. Our laudable desire to do this may blind us to the fact that not all pain originates in sensory structures, and not all pain behavior reflects pain.

The concepts of psychogenic pain and of pain exaggeration should not alter our position vis-à-vis patients. Our mission is to reduce their suffering and improve the quality of their lives. The admonition that “pain is exactly what the patient says it is” is an excellent basis for management of acute and malignant pain, though psychogenic factors can play a role here also. With chronic non-malignant pain, reports should be presumed to be accurate absent evidence to the contrary, especially when the patient is seeking treatment rather than compensation. “Trust but verify” is a useful stance when there are symptoms by guest on October 9, 2016 http://painmedicine.oxfordjournals.org/Downloaded from

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References