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Cases in Psychosomatically Induced Dental Pain

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Abstract

Four cases are presented: a 39 year old male and three women aged 37, 46 and 39 years. The male patient had an initial chief complaint of enormous pain with treatment, but later in interviews discovered that it was more an extreme distrust of dentists. The women patients each had their own emotionally significant reasons for extreme pain reactions to dental drilling and unsuccessful attempts at local anesthetic. In the safety of therapy and away from the dental chair, they learned that they could visualize dental drilling and could actually "feel" the pain in their teeth. They also learned that they could stop the pain or control it through relaxation exercises and positive thinking. This illustrates the subjectivity of pain perceptions and subsequent pain reactions. It also shows how important it is that dental practitioners understand that providing effective dental anesthesia is more than just making sure that anesthetics in adequate doses reach nerves and dental pulp. Patient and dentist beliefs and expectations affect emotional meanings of dental pain in a mutually reinforcing manner. Dentists should explore patients' pain-related expectations and beliefs in order to achieve optimal analgesic outcomes.

Keywords: *dental pain, suffering, dental anxiety, social context of pain, psychosomatic pain, local anesthesia, analgesia, emotional significance*

Introduction

Pain experiences, by nature and definition, consist of physical and mental components.[1] If a patient shows signs of suffering given a stimulus such as tooth drilling or extraction, one can reasonably conclude that it is probably related to perception of pain. Pain that for some might be easily endured can for others induce suffering, especially if an individual imagines that it will increase or continue.[2] Anticipation of pain induces suffering when the pain or other trauma "still-to-come" threatens personal integrity. With conditioned responses to the pain or trauma, pain anticipation can remain as a mental scar affecting later, similar anxiety provoking experiences.[3]

Case Presentations

A case study from the Dental Phobia Research & Treatment Center (DPRTC) clinic with an initial chief complaint of "enormous pain" during dental treatment, had special emotional significance to the patient.

Case History: 39 year old male factory worker ("39 M") avoided treatment for over 15 years due to dental anxiety. As a 9 year old he had been treated without local anesthesia and held down in a dental chair by a public dental service dentist and her assistants. The memories of trauma had lasted all of his adult years as described below, yet still his chief complaint was painful dental treatment.

39 M: "The dentist said, 'We are only going to look.' Then I remember she looked and said, 'There are a couple of cavities and I think that we should fill them.' I protested right away. A dental assistant put her hands over my legs, so I couldn't kick. (39 M demonstrates). Then another assistant was on my left side and held my hands. The dentist had her free hand here (points to throat)… and then my teeth 'got fixed'. After just a few minutes I was so paralyzed with fear that I couldn't move anymore. When my father came back, I told him that I would never forgive him that he had left (the clinic while I was being treated). He answered, 'Oh, it couldn't have been *that* bad.'"

At age 24, 39 M visited a dentist in private practice who underestimated his anxiety, and in spite of insisting that she would, did not take it seriously. She reinforced his distrust for dentists and vulnerability as described below.

39 M: "She meant well when she said 'Come on in the chair and let's get it over with, because it isn't as bad as you think it is'. But I cried.. and got laughing gas and got stuck (local anesthetic) in two or three places. She filled three cavities and didn't tell me during the procedure she had placed a clamp around a tooth and that it had fallen apart. She just did it. Even with all that laughing gas and anesthetic, it didn't seem to help. I was really upset. An assistant got sick at the sight of a grown man sobbing like a baby. I just simply couldn't take it. When I got out of the chair it was like tearing a band-aid from it 'cause I had sweated so much. So afterwards she said, 'Oh my God, is it so bad?' I said, 'That's what I tried to tell you. Now you have seen me three times – the first, the only and the last.' Since then, I have never even been close to a dental chair."

The specter of iatrogenesis of severe pain and suffering at the hands of a dentist, especially in the innocence and vulnerability of childhood, becomes a real and emotionally experienced threat for a sufferer in the adult years. "39M" went on with the description:

39M: "My own evaluation is that I was 'had' by dentist, in a way. If she had been a decent person and could have understood what it was, then I think that I wouldn't be sitting here (dental anxiety specialty clinic). I suffered a horrible breakdown in spirit, knowing that other people could treat me that way. They just did with me what they wanted. So it still lies there in me. No one will ever do that again. I'll make those decisions myself. I dare to state that I would rather be beaten under the soles of my feet with a rod than I would sit in a dental chair."

After 8 sessions of psychotherapy including focused relaxation training and desensitization e**xercises**[4] in the dental chair, 39M was not particularly difficult to anesthetize for dental treatment.

Similar to the case study of "39 M", other anxious patients' conditioned responses to dental treatment such as sounds, sensations and pain with dental drilling, actually turn out to be an underlying feeling of vulnerability related to fear of threatening dentist behaviors – the "person behind the drill", not just the drilling itself. Often phobic patients with chief complaint of "painful dental treatment" do not have difficult anatomical circumstances for successful anesthesia, but rather, are not able to focus on relaxation due to perceived imminent threat and stress. This increases physical tension and lowers their pain threshold and a kind of self-fulfilling psychosomatic (psycho = mind; somatic = body) conversion[5] to perceived pain occurs.

Further illustration of this psychosomatic pain conversion phenomenon were three cases in DPRTC therapy. These cases were likely examples of "somatization" related to their phobic anxiety, as described in the DSM-5 psychiatric model.[5] These anxious patients were so convinced that they would feel pain from tooth drilling that merely sitting in therapy away from the clinic and visualizing tooth drilling, instrumentation or handling a dental drill caused them to feel pain in their teeth due to their psychological conditioning:

A 37 year old nurse had avoided dental treatment for 7 years for fear of pain with drilling and difficulty getting anesthetized. She had tried several dentists and even a hypnotist without success. She could easily visualize drilling in therapy and described a burning pain sensation in her lower right first molar. The tooth had a filling, but she could not recall any particular experience with it. She had a tendency to worry a lot and confessed that it "ran in the family".

A 46 year old social worker could visualize a "chilling-soreness" at the thought of any metal instruments on her teeth, but only felt this in her upper teeth. She came to find out in therapy that it was related to a hard-handed dentist in her childhood.

The third woman was 39 years old and experienced dental pain in the upper left second molar with visualizations of tooth drilling. Her resistance to be fully anesthetized with previous dental work was related to her feelings of having been betrayed by dentists and doctors several times in her life. One of these incidents, painful delivery of a stillborn child, had significant personal meaning and required extra psychotherapy in crisis management.

Since these three DPRTC patients could produce the pain just by visualizing tooth drilling, this was also useful in their therapy. After learning a relaxation technique in the therapy office, they learned to exercise control over their intense pain perceptions by 1) imagining hearing the drill, 2) producing the

pain and then 3) stopping the pain again with other thoughts and relaxation. Once this was accomplished, further desensitization with actual drill sounds and sensations coupled with relaxation in the dental chair could continue, with the patient aware that they now had the ability to control their perceptions of pain, given that they received adequate local anesthetic.

Discussion/Conclusion

The defensive stance of 39M is noteworthy. For persons with phobic dental anxiety, it is perhaps easier to say that a dentist "hurt" them, meaning physically, then to try, especially as a child, to get someone to believe that they experienced assault by a dentist and staff and suffered the effects of interpersonal trauma. The initial chief complaint of "enormous pain" with treatment did not cover the underlying cause of this patient's anxiety and avoidance. Not asking a patient about relief of pain is also dangerously close to the act of willingfully inflicting it as an iatrogenic act.[6] So it is often negative beliefs about dentists that are related to vulnerability and suffering that creates the aversion to treatment and an extra reinforced response to pain. These feelings of pain suffering are often expressed by patients who perceive an unequal balance of power with the dentist in these situations. They tend to experience pain easily, and say so, in a way that makes pain a first line of defense against unpredictable dentist behaviors or iatrogenic acts that are actually more threatening than the pain itself.

The only other similar case reported in the literature was by Frankel in 1974[7] in which an anxious dental patient exhibited a high degree of suggestibility and spontaneous trance-like pain experiences, one of which was in response to dentist characteristics. Although there are no other recent dental case reports of psychosomatic pain conversion, more recent literature indicates that high levels of suggestibility are associated with high dental anxiety[8]and heightened pain perception.[8, 9] The underlying psychological process has been described by Arntz et al.[10, 11] in experiments on normal subjects who could eliminate pains without physical anesthesia by psychological extinction of their "imagined pains". These findings support Melzack's theoretical description of "neurosignature patterns", which although they are most often triggered by sensory inputs, may also be generated independently of them in the brain, similar to phantom pains.[12, 13]

The techniques and methods that dentists normally use are aimed at the body (especially teeth) rather than the person, i.e. the pain, not the suffering.[14] In the above three cases, unwary practicing dentists might unknowingly fall into a trap of finding that the patients were very difficult, if not impossible, to anesthetize. In order to try to obtain effective pain control they would probably seek more effective physical means of anesthesia, such as giving higher doses of local anesthetic or consider using general anesthesia. The signs of suffering are therefore often missed, even in severely painful reactions and even when it should be fairly obvious to dentists or physicians.[2] A degree of awareness must be maintained in the presence of persistent pain perceptions, and patients must be directly questioned about any emotional significance. In this way, the dentist or physician shows recognition and respect for the suffering symbolized as pain and a dialogue can lead to resolution or even amelioration of the psychosomatic reaction.[3, 15] The information on which the assessment of suffering is based is subjective and may pose difficulties for dentists or physicians, who tend to value objective findings more highly and see a conflict between the two kinds of information. Knowing patients as individuals well enough to understand the origin of their suffering and ultimately its best treatment, requires methods of empathic attentiveness and non-linear thinking. The relief of suffering depends on the doctor or dentist knowing or acquiring these skills[2,3] that can be learned through professional training.

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