REVIEW ARTICLE

Definition of pain and classification of pain disorders

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Abstract

Pain of any origin comprises an individual's life. The prevention and management of pain is an important aspect of health care. Psychological factors play a key role in both onset and progress of any pain disorder. In pain disorders, pain is perceived in different anatomic locations such as lower back, head region, abdomen, and chest. Abnormal signal transmission and processing in the nervous system are the legitimate explanation for this condition. Although evidence suggests that pain disorder is widely prevalent in the general population, research still fails to address numerous aspects of pain diagnosis and management. Diagnostic criteria for pain differ in various Diagnostic and Statistical Manual of Mental Disorders (DSM) such as DSM-III, DSM-III revised, DSM-IV, and DSM-IV-textual revisions; hence, a more comprehensive classification is the need of the hour. The ability to understand and investigate the pathophysiologic process underlying a disorder depends on a valid, reliable classification system and common terminology to make effective communication among the academicians, clinicians, researchers, and patients. After the classification criteria are achieved, the validity and reliability of the criteria must be analyzed. Once the criteria have proven valid and reliable, research effort can be directed toward gaining better insight into prevalence, etiology, and natural course of a given disorder, eventually leading to more effective treatment. In this review, various definitions of pain along with few diagnostic classification systems for various pain disorders have been presented.

Introduction

The chore of medicine is to preserve and restore patient's health and to minimize their suffering. To achieve these goals, intellection about pain is must because pain is universally understood as a pointer of disease and it brings the patient to the physician recognition. Pain can originate from any situation, injury being the major cause. The pain perception in every individual is complex and is controlled by a variety of variables.

The main function of the sensory system in our body is to guard and keep up pain homeostasis. It does this by identifying, localizing, and recognizing the tissue damaging processes. In view of the fact that different diseases produce distinctive patterns of tissue damage. The location, the time course, quality, and tenderness provide important clues for diagnosis, which are used as one of the best hints to evaluate the response to treatment. Once the information is collected, physician can easily provide immediate and successful pain relief to the patient.[1]

In Greek word, pain means penalty. Plato said that pain arises from within the body and indicating that pain is more of an emotional experience.

In recent times, the concept of pain has evolved from one-dimensional to a multi-dimensional entity involving sensory, cognitive, motivational, and affective qualities. Pain is always subjective and every individual use this word through their previous experience related to the injury. Over time, various definitions have been given to describe and understand this pain in medical literature.[2] The aim of this review is to enlist various definitions of pain and few diagnostic classification systems for various pain disorders.

Pain Definitions

1. Task force on taxonomy of the International Association for the Study of Pain (IASP) says that pain is "An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage."[3]
2. The North American Nursing Diagnosis Association defines that pain is a state, in which an individual experiences and reports severe discomfort or an uncomfortable sensation;

the reporting of pain may be either by direct verbal communication or by encoded descriptors.[4]

3. Medical dictionary by Farlex: Pain is defined as an unpleasant feeling that is conveyed to the brain by sensory neurons.[2] The discomfort signals actual or potential injury to the body. However, pain is more than a sensation or the physical awareness of pain; it also includes perception, the subjective interpretation of the discomfort. Perception gives information on the pain's location, intensity, and something about its nature. The various conscious and unconscious responses to both sensation and perception, including the emotional response, add further definition to the overall concept of pain.
4. Fields *et al.* "Pain is an unpleasant sensation localized to a part of the body. It is often described in terms of a penetrating or tissue-destructive process (e.g.: Stabbing, burning, twisting, tearing, and squeezing) and/or of a bodily or emotional reaction (e.g.: Terrifying, nauseating, and sickening)."[1]
5. Monheim: "An unpleasant emotional experience usually initiated by noxious stimulus and transmitted over a specialized neural network to the central nervous system where it is interpreted as such."[5]
6. Bell: The subject's conscious perception of modulated nociceptive impulses that generate an unpleasant sensory and emotional experiences associated with actual or potential tissue damage or described in terms of such damage.[6]
7. McCaffery and Pasero offered a clinically useful definition: "Pain is whatever the experiencing person says it does."[7]

The words "pain" and "suffering" have often been used synonymously, but the experience of suffering has been differentiated from pain. Suffering has been defined as indulging the experience of pain but as also including vulnerability, dehumanization, a lost sense of self, blocked coping efforts, lack of control over time and space, and an inability to find meaning or purpose in the painful experience.

The term "suffering" attempts to convey the experience of pain beyond sensory attributes.

Classification of Pain Disorders

The Diagnostic and Statistical Manual of Mental Disorders, 4th edition, Textual Revision have classified pain disorder as a somatoform disease.[8,9] Pain more often than is not a chief complaint of a patient and requires therapeutic intervention. Concepts with regards to the nature of pain have always been debatable. Sometimes, this is referred to as somatization and is usually confused with somatization disorder.[3] However, in recent times, pain is described as a multidimensional entity with the equal involvement of central nervous system, cognitions, and emotions.[10]

The chronic pain classifications, which address the physical, psychological, and social aspect, will provide a more comprehensive view on this disorder.[3]

Orofacial pain (OFP) is the presenting symptom of various spectrums of diseases. These symptoms may be arises from disease of orofacial origin itself, or musculoskeletal, nervous system origin or psychological abnormality or pain referred from cervical muscles or intracranial pathology. OFP can also occur without known reason and might have normal physical, imaging, or laboratory findings. Some of the OFP disorders are easily diagnosed and treatable, but others are difficult to classify and unresponsive to routine methods of treatment. The possible reason for OFP is mostly definable and few of them can extent to many medical and dental disciplines. An interdisciplinary approach is often required to establish a correct diagnosis and for treatment.[3]

Classification system is very essential for the academic exercise, as it provides good understanding between researchers and practitioners who deals with same relevant characteristics. An understanding of pathophysiology of disorder, management protocol, and the prognosis is important clinical issues that can be addressed effectively by a standard classification system. At present, most of the classifications are based on the common existing knowledge and without formal organization or assumptions about the uniformity of signs and symptoms.[3]

The International Headache Society (IHS) published the first edition of its classification and diagnostic criteria for headache disorders, cranial neuralgia's, and facial pain in 1988 [Table 1].[11]

IHS classification consists of 13 categories, out of which, two are specifically relate to OFP disorders: Category 11 - headache or facial pain related to facial or cranial structures and category 12 - cranial neuralgias, nerve trunk pain, and deafferentation pain. Category 11 also includes temporomandibular joint disease

Table 1: IHS classification and diagnostic criteria for headache disorders, cranial neuralgia, and facial pain[11]

Migraine
  Migraine without aura
  Migraine with aura

Tension-type headache
Cluster headache and clinical paroxysmal hemicrania
Miscellaneous headaches unassociated with structural lesion
Headache associated with head trauma
Headache associated with vascular disorders
Headache associated with non-vascular intracranial disorder
Headache associated with substances or their withdrawal
Headache associated with non-cephalic infection
Headache associated with metabolic disorders
Headache or facial pain associated with disorder of cranium, neck, eyes, ears, nose, sinuses, teeth, mouth, or other facial or cranial structures
Cranial neuralgias, nerve trunk pain and deafferentation pain
Headache not classifiable

IHS: International Headache Society

Table 2: Classification of cranial neuralgias, nerve trunk pain, and deafferentation pain

IHS category specific disorders or definition classification[3]	
Persistent (in contrast to ticlike) pain of cranial origin	Compression or distortion of cranial nerves and 2nd or 3rd cervical roots Demyelination of cranial nerves (optic neuritis) Infarction of cranial nerves (diabetic neuritis) Inflammation of cranial nerves (herpes zoster and postherpetic neuralgia) Tolosa-Hunt syndrome Neck-tongue syndrome
TN	Idiopathic TN Symptomatic TN (caused by demonstrable structural lesion)
GN	Idiopathic GN Symptomatic GN (caused by demonstrable structural lesion)
Nervus intermedius neuralgia	Rare disorder characterized by brief paroxysms of pain felt deeply in the auditory canal
Superior laryngeal neuralgia	Rare disorder characterized by severe pain in the lateral aspect of the throat, Submandibular region, and underneath the ear, precipitated by swallowing, shouting, or turning the head
Occipital neuralgia	Paroxysmal jabbing pain in the distribution of the greater or lesser occipital nerves, accompanied by diminished sensation or dysesthesia in the affected area; commonly associated with tenderness over the nerve concerned
Central causes of head and facial pain other than	Anesthesia dolorosa: Painful anesthesia or dysesthesia, often related to surgical trauma of the tic douloureux trigeminal ganglion, evoked most frequently after rhizotomy or thermocoagulation for treatment of idiopathic TN Thalamic pain: Unilateral facial pain and dysesthesia, attributed to a lesion of the quintothalamic pathway or thalamus
Facial pain not fulfilling criteria in groups 11 and 12 (previously used terms: Atypical facial pain, atypical odontalgia)	Persistent facial pain that does not have the characteristics of the cranial neuralgias classified (previously used terms: Atypical facial pain, atypical odontalgia) above and is not associated with physical signs or a demonstrable organic cause

IHS: International Headache Society, TN: Trigeminal neuralgia, GN: Glossopharyngeal neuralgia

Table 3: Classification of idiopathic orofacial pain[3]

IHS classification 12.8: Facial pain not fulfilling other criteria
Daily pain that is deep and poorly localized persisting for most or all of the day
Pain at onset confined to a limited area on one side of the face and that may spread to the upper and lower jaws or a wider area of the face or neck
Pain not associated with sensory loss or other physical signs, and laboratory investigations (including radiography of face and jaws) do not demonstrate relevant abnormality

IHS: International Headache Society

and disorders of teeth, jaws, and related structures. Disorders in category 12 are listed in Table 2.[3,6]

Classification of idiopathic OFP [Table 3].[3]

The IHS, American Academy of Orofacial Pain (AAOP), and IASP all have made classification schemes that include OFP. The IASP classification system was originally published, in 1986, and revised, in 1994 and is composed of five albums, as listed in Table 4.[3,6,10]

Table 4: Scheme for Coding Chronic Pain Diagnosis by the IASP classification[3,6,10]

Axis definition
Regions (e.g.: Head, face, and mouth)
Systems (e.g.: Nervous system)
Temporal characteristics of pain (e.g.: Continuous, recurring irregularly, paroxysmal)
Patient's statement of intensity: Time since onset of pain (e.g.: Mild, medium, severe; 1 month or less; more than 6 months)
Etiology (e.g.: Genetic, infective, psychological)

AAOP: American Academy of Orofacial Pain, IASP: International Association for the Study of Pain, IHS: International Headache Society, OFP: Orofacial pain.

Table 5: Classification of localized syndromes of the head and neck[3,10]

Neuralgias of the head and face
Craniofacial pain of musculoskeletal origin
Lesions of the ear, nose, and oral cavity
Primary headache syndromes, vascular disorders, and cerebrospinal fluid syndromes
Pain of psychological origin in the head, face, and neck
Sub occipital and cervical musculoskeletal disorders
Visceral pain in the neck

IASP: International Association for the Study of Pain, OFP: Orofacial pain.

Table 6: Differential diagnosis of OFP[3]

AAOP	
Intracranial pain disorders	Neoplasm, aneurysm, abscess, hemorrhage, hematoma, edema
Primary headache disorders (neurovascular disorders)	Migraine, migraine variants, cluster headache, paroxysmal hemicrania, cranial arteritis, carotidynia, tension-type headache
Neurogenic pain disorders	Paroxysmal neuralgias (trigeminal, glossopharyngeal, nervus intermedius, superior laryngeal) Continuous pain disorders (deafferentation, neuritis, postherpetic neuralgia, post-traumatic, and postsurgical neuralgia) Sympathetically maintained pain
Intraoral pain disorders	Dental pulp, periodontium, mucogingival tissues, tongue
Temporomandibular disorders	Masticatory muscle, temporomandibular joint, associated structures
Associated structures	Ears, eyes, nose, paranasal sinuses, throat, lymph nodes, salivary glands, neck

AAOP: American Academy of Orofacial Pain Classification, IHS: International Headache Society, OFP: Orofacial pain.

The IASP has categorized OFP as a relatively localized syndromes of the head and neck region,[3,10] these are listed within this section and has 67 different disorders [Table 5].

The AAOP has classified OFP disorder as based on IHS classification system. A separate section (not included in the publication) is recommended for the definition of psychosocial factors and mental disorders. OFP disorders in this classification are listed in Table 6.[3] By integrating both medical and behavioral treatment in the management of chronic pain will significantly lessen pain associated anxiety and depression as well as anger and hostility.[12]

Conclusion

As very well written in the title of the article by Caudill “Managing pain before it manages you,” it becomes very crucial to identify and diagnose pain and its related disorders to bring about the right and effective method of pain control. It is imperative for medical and dental practitioners to address to every patient’s chief complaint and deliver definite treatment.

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