

Letters to the Editor/Short Communications

Central Sensitization Pain Should Be Included in (Central) Neuropathic Pain

To THE EDITOR:

Dr. Nijs et al (1) provided criteria for the classification of central sensitization (CS) pain. Peripheral neuropathic pain and nociceptive pain cause CS in the central nervous system if the 2 kinds of pain persist. Therefore, pure peripheral neuropathic pain and pure nociceptive pain are rare in clinical practice. I believe that CS is one of causes of central neuropathic pain. CS pain may be the center of (central) neuropathic pain. I disagree with a hypothesis that CS pain is differentiated with neuropathic pain. Fibromyalgia will be often diagnosed as CS pain based on the classification of CS pain, because fibromyalgia is a typical CS pain.

First, what is the purpose of differentiating CS pain from neuropathic pain? It is very important that we differentiate neuropathic pain from nociceptive pain because treatment, including medication, of the 2 kinds of pain are complete different. Treatment for neuropathic pain is similar except in cases of complex regional pain syndrome, trigeminal neuralgia, migraine, and cluster headache. In all likelihood, fibromyalgia is a disease (or disorder) with the highest number of evidence-based efficacious treatment options among neuropathic pain. Treatment for fibromyalgia is useful in patients with other neuropathic pain based on evidence and my experience.

Second, differentiation between lesion/disease and dysfunction in the central nervous system makes

no sense. Parkinson's disease and multiple sclerosis were functional diseases in the sixth century. In all likelihood, dysfunction of the central nervous system in patients with CS pain such as fibromyalgia will be lesion in the twenty-fourth century.

Differentiating CS pain from neuropathic pain confuses clinical practice. CS pain should be included in (central) neuropathic pain.

Katsuhiko Toda, MD
Fukuyama Rehabilitation Hospital
Department of Rehabilitation
1-15, 4-choume, Miyoshi-chou,
Fukuyama-city, Hiroshima, Japan 720-0031
E-mail:goutattack@yahoo.co.jp

REFERENCE

1. Nijs J, Torres-Cueco R, van Wilgen CP, Girbes EL, Struyf F, Roussel N, van Oosterwijck J, Daenen L, Kuppens K, Vanwerwee L, Hermans L, Beckwee D, Voogt L, Clark J, Moloney N, Meeus M. Applying modern pain neuroscience in clinical practice: Criteria for the classification of central sensitization pain. *Pain Physician* 2014; 17:447-457.

In Response

Thank you for giving us the opportunity to respond to the letter by Dr. Katsuhiko Toda discussing the presentation of clinical classification criteria for central sensitization pain (1). The criteria aim to explain how clinicians can differentiate clinically between predominant nociceptive, neuropathic, and central sensitization pain. Dr. Toda challenged the need for such criteria,

advocating that central sensitization pain can be classified as neuropathic pain. Here we take the opportunity to explain our perspective in more detail.

According to the International Association for the Study of Pain (IASP), neuropathic pain is defined as pain caused by a primary lesion or disease of the somatosensory nervous system (2). Guidelines have been

published for the classification of neuropathic pain (3, 4), and specify that a lesion or disease of the nervous system (either central or peripheral) is identifiable and that pain is limited to a "neuroanatomically plausible" distribution. The neuropathic pain criteria preclude the use of the term "neuropathic pain" for people with diffuse or widespread pain and nervous system sensitization (i.e. central sensitization pain), as the latter is free of a history of a lesion or disease of the nervous system and is typically characterized by a pain distribution that is not neuroanatomically plausible (1). Whilst we acknowledge the overlap in mechanisms underpinning neuropathic pain and central sensitization and that neuropathic pain strongly influences central sensitization, the pre-existing definition for neuropathic pain precludes people with a predominant central sensitization pain, with no evidence of injury or disease in the somatosensory system from being classified as having neuropathic pain. In fact, this was a key factor leading us to develop the clinical classification criteria and related clinical algorithm presented (1). For example, a patient with non-specific low back pain cannot be classified as neuropathic pain patient, but can be classified as having predominant central sensitization pain (5,6). The same reasoning accounts for patients with grade II-III whiplash associated disorders or non-neuropathic chronic shoulder pain (7,8).

Further, we do acknowledge the possible overlap between all three pain types (i.e. nociceptive, neuropathic and central sensitization) that is seen in some patients with chronic pain. But even in such "overlapping" situations, identifying the predominant pain type seems warranted to steer treatment.

Dr Toda's second point about historical changes is important to keep in mind; indeed, perhaps fibromyalgia will be seen as a lesion of the central nervous system in the twenty-fourth century and guidelines will have to be changed at that point. However, the criteria we propose are described according to the current scientific body on knowledge and are, we believe, contemporary.

We thank Dr. Toda for careful reading of our paper and expression of his interest in the newly developed clinical classification criteria, and we hope that this response letter clarifies the need and reasoning behind the criteria. Finally, the proposed criteria are no more than a first step. Hopefully, these criteria will facilitate the acknowledgement and recognition of predominant central sensitization pain, research in this area, and eventually adaptation / improvement of the classification algorithm based on research data.

Jo Nijs
Pain in Motion Research Group
Departments of Human Physiology and
Physiotherapy
Faculty of Physical Education and Physiotherapy
Vrije Universiteit , Brussel, Belgium
Department of Physical Medicine and Physiotherapy
University Hospital
Brussels, Belgium
E-mail: Jo.Nijs@vub.ac.be

Rafael Torres-Cueco
Department of Rehabilitation
University of Valencia, Spain

C. Paul van Wilgen
Transcare
Transdisciplinary Painmanagement Centre
Groningen, The Netherlands

Enrique Lluch Girbés
Department of Rehabilitation
University of Valencia
Spain

Filip Struyf
Pain in Motion Research Group
Departments of Human Physiology and
Physiotherapy
Faculty of Physical Education and Physiotherapy
Vrije Universiteit , Brussel, Belgium
Rehabilitation Sciences and Physiotherapy
Faculty of Medicine
Antwerp University, Antwerp, Belgium

Nathalie Roussel
Pain in Motion Research Group
Departments of Human Physiology and
Physiotherapy
Faculty of Physical Education and Physiotherapy
Vrije Universiteit , Brussel, Belgium
Rehabilitation Sciences and Physiotherapy
Faculty of Medicine
Antwerp University, Antwerp, Belgium

Jessica Van Oosterwijck
Pain in Motion Research Group
Departments of Human Physiology and
Physiotherapy

Faculty of Physical Education and Physiotherapy
Vrije Universiteit , Brussel, Belgium
Department of Rehabilitation Sciences
Ghent University, Ghent, Belgium

Liesbeth Daenen
Pain in Motion Research Group
Departments of Human Physiology and
Physiotherapy
Faculty of Physical Education and Physiotherapy
Vrije Universiteit , Brussel, Belgium
Department of Neurology
Faculty of Medicine
Antwerp University, Antwerp, Belgium

Kevin Kuppens
Pain in Motion Research Group
Departments of Human Physiology and
Physiotherapy
Faculty of Physical Education and Physiotherapy
Vrije Universiteit , Brussel, Belgium
Department of Neurology
Faculty of Medicine
Antwerp University, Antwerp, Belgium

Luc Vanderweeën
Pain in Motion Research Group
Departments of Human Physiology and
Physiotherapy
Faculty of Physical Education and Physiotherapy
Vrije Universiteit, Brussel, Belgium
Private Practice for Spinal Manual Therapy
Schepdaal-Dilbeek, Belgium

Linda Hermans
Department of Rehabilitation Sciences
Ghent University, Ghent, Belgium

David Beckwée
Department of Rehabilitation Sciences & Physiotherapy
Faculty of Physical Education and Physiotherapy
Vrije Universiteit Brussel
Brussels, Belgium

Lennard Voogt
Pain in Motion Research Group
Departments of Human Physiology and
Physiotherapy
Faculty of Physical Education and Physiotherapy
Vrije Universiteit , Brussel, Belgium
University College Rotterdam

Netherlands

Jacqui Clark
Faculty of Health
Psychology and Social Care
Manchester Metropolitan University
United Kingdom

Niamh Moloney
Faculty of Health Sciences
The University of Sydney, Australia

Mira Meeus
Department of Rehabilitation Sciences
Ghent University
Ghent, Belgium
Department of Neurology
Faculty of Medicine
Antwerp University, Antwerp, Belgium

REFERENCES

1. Nijs J, Torres-Cueco R, van Wilgen CP, Girbes EL, Struyf F, Roussel N, van Oosterwijck J, Daenen L, Kuppens K, Vanwerwee L, Hermans L, Beckwee D, Voogt L, Clark J, Moloney N, Meeus M. Applying modern pain neuroscience in clinical practice: criteria for the classification of central sensitization pain. *Pain Physician* 2014; 17:447-457.
2. H. Merskey NBatTFoT. Part III: Pain Terms, A. Current list with definitions and notes on usage. In: H. Merskey NBatTFoT, ed. *Classification of chronic pain second edition* ed. Seattle, USA: IASP Press; 1994: 209-214.
3. Treede RD, Jensen TS, Campbell JN, Cruccu G, Dostrovsky JO, Griffin JW, Hansson P, Hughes R, Nurmikko T, Serra J. Neuropathic pain: redefinition and a grading system for clinical and research purposes. *Neurology* 2008; 70:1630-1635.
4. Haanpää M TR. Diagnosis and classification of neuropathic pain. *Pain Clinical Updates* 2010; XVII(7).
5. Smart KM, Blake C, Staines A, Doody C. Self-reported pain severity, quality of life, disability, anxiety and depression in patients classified with 'nociceptive', 'peripheral neuropathic' and 'central sensitisation' pain. The discriminant validity of mechanisms-based classifications of low back (+/-leg) pain. *Manual Therapy* 2012; 17:119-125.
6. Roussel NA, Nijs J, Meeus M, Mylius V, Fayt C, Oostendorp R. Central sensitization and altered central pain processing in chronic low back pain: fact or myth? *Clin J Pain* 2013; 29:625-638.
7. Van Oosterwijck J, Nijs J, Meeus M, Paul L. Evidence for central sensitization in chronic whiplash: A systematic literature review. *Euro J Pain* (London, England) 2013; 17:299-312.
8. Paul TM, Soo Hoo J, Chae J, Wilson RD. Central hypersensitivity in patients with subacromial impingement syndrome. *Archives Phys Med Rehabil* 2012; 93:2206-2209.