

Standard phenotypes will aid in genetic research on neuropathic pain

October 26 2015

Research on the genetic factors contributing to neuropathic pain has been hindered by the lack of a standard approach to assessing its clinical characteristics or "phenotype." Now, a report from an expert panel published in the journal *Pain* presents a consensus approach to assessing the phenotype of neuropathic pain.

Standardized "entry level" criteria for defining the phenotype of [neuropathic pain](#) were developed by an international panel of experts assembled by the IASP's Special Interest Group on Neuropathic Pain (NeuPSIG). Along with other recommendations for research reporting, the consensus criteria will achieve "greater consistency and transparency in studies of neuropathic pain in adult humans." Dr. Blair H. Smith of the University of Dundee, Scotland, is lead author of the expert panel report.

Setting Standard Criteria to Define Neuropathic Pain Phenotypes

Neuropathic pain is a common and complex pain condition caused by damage or diseases of the sensory nerves. Patients may experience shooting or burning pain, numbness, or exaggerated pain responses. Neuropathic pain can be caused by diabetes, trauma, shingles, and a wide range of other conditions.

Information on genetic factors may help in understanding how

neuropathic pain develops, leading to new approaches to treatment and prevention. But so far, genetic studies have produced inconsistent results that are difficult to confirm. This is partly because of differing approaches used to identify and classify the clinical expression and characteristics of this condition, which can vary widely.

To address this problem, the [expert panel](#) "aimed to provide guidelines on collecting and reporting phenotypes" of neuropathic pain. After a thorough review of previous research evidence, panel members followed a formal consensus process to develop a set of "entry level" phenotype data to identify and classify patients with neuropathic pain, as well as appropriate comparison (control) groups.

Following this process, the NeuPSIG panel identified three basic elements:

- Pain with neuropathic characteristics (described as "hot/burning" or "evoked by light touch") or assessed using a validated screening tool
- Pain distributed or located in a pattern that is anatomically consistent with underlying nerve damage or disease (in other words, the pain is consistent with the anatomy of the affected sensory nerves)
- Additional information on pain history and characteristics and other factors relevant to the disease or group of patients being studied

Reflecting the challenges of diagnosing neuropathic pain, the report emphasizes that these "entry level" criteria identify only "possible" cases of neuropathic pain. Depending on the situation, additional criteria could be used to identify "probable" or "definite" cases, or additional sensory or psychological assessments could be conducted to further characterize the phenotype.

The new criteria are published as IASP concludes its [2014-2015 Global Year Against Neuropathic Pain](#) campaign. By improving awareness among patients and health-care providers, IASP hopes to improve recognition and management of this disabling and difficult-to-treat condition.

The consensus phenotype criteria will be an important step toward a more productive approach to studying the [genetic factors](#) contributing to neuropathic [pain](#), the NeuPSIG panel members believe. They conclude, "These improvements will facilitate advancements in the field by enabling collaboration between research groups, replication of discoveries of contributing genetic variants, meta-analyses, and translation from the laboratory to the general population, and back again."

More information: Oliver van Hecke et al. Neuropathic pain phenotyping by international consensus (NeuroPPIC) for genetic studies, *PAIN* (2015). [DOI: 10.1097/j.pain.0000000000000335](https://doi.org/10.1097/j.pain.0000000000000335)

Provided by Wolters Kluwer Health

Citation: Standard phenotypes will aid in genetic research on neuropathic pain (2015, October 26) retrieved 25 April 2024 from <https://medicalxpress.com/news/2015-10-standard-phenotypes-aid-genetic-neuropathic.html>

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