

Press Information

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International Expert Consensus

Recommendations for screening, diagnosis, and management of diabetic sensorimotor polyneuropathy in clinical practice

Globally, the prevalence of diabetes mellitus is rising constantly. One of the most frequent and severe complications is diabetic sensorimotor polyneuropathy (DSPN) which affects roughly one in three patients with diabetes. “Although it accounts for considerable morbidity, increased risk of mortality, reduced quality of life, and increased health care costs, DSPN still remains inadequately diagnosed and treated”, regrets Prof. Dr. med. Dan Ziegler from the German Diabetes Center at the Heinrich Heine University in Düsseldorf, Germany. Therefore, to address this deficiency, an international board of 15 neuropathy experts developed a consensus paper with recommendations to facilitate screening, diagnosis, and management of DSPN in clinical practice. These recommendations have now been published in the journal “Diabetes Research and Clinical Practice“, the official journal of the International Diabetes Federation (IDF). Information related to the expert consensus is available online at www.woerwagpharma.com/consensus-conference.

Diabetic neuropathy manifests as damage occurring in the somatic and/or autonomic components of the peripheral nervous system. Diabetic sensorimotor polyneuropathy (DSPN) is the most common form affecting approximately one third of the diabetic population. Pain, paresthesias, and numbness in the feet or legs are typical symptoms of DSPN. Due to these symptoms, but also due to complications like foot ulcers, it substantially impairs patients’ quality of life. Up to one fourth of patients with diabetes suffer from neuropathic pain which is described as burning, stabbing, or shooting. However, around half of patients affected by DSPN remain asymptomatic. Both painful and painless DSPN are predictors of morbidity and increased risk of mortality. The authors around Ziegler state that despite these serious consequences, DSPN still remains underdiagnosed and insufficiently treated. For this reason, neuropathy experts from the EU, UK, Eastern Europe, Russia, Middle East, and USA met for a virtual conference on the occasion of the World Diabetes Day 2020 to develop and publish consensus recommendations and algorithms for screening, diagnosis, and management of DSPN in clinical practice.

Consistent recommendations for practice

The experts believe that guidelines are essential to ensure the quality of medical care. However, the existing guidelines focus on treatment of painful DSPN or neuropathic pain in general. Moreover, the recommendations for pharmacotherapy are not consistent between medical societies. This might lead to confusion and undermine the credibility, according to the medical experts.

In a structured process, the board of experts reviewed clinical studies and current guidelines. In addition, the experts’ personal experience from their own clinical practice was also considered. In an accepted communication procedure, the Delphi

process, experts finally achieved consensus on relevant questions for clinical practice.

Examine small and large nerve fibers

The experts point out, that nerve damage frequently starts at early stages of diabetes both in small and large nerve fibers. Therefore, it is important to examine both types of nerve fibers by suitable tests: for example, large nerve fiber function by testing of vibration sensation and small fiber function by testing of pain sensation. The experts stress, that every bilateral abnormality in the screening test points towards DSPN and may require more extensive diagnostic procedures. The use of validated questionnaires and scores to assess and evaluate neuropathic symptoms and deficits as well as a thorough differential diagnosis are also important.

Three cornerstones of therapy

The experts refer to three cornerstones in the management of DSPN:

- 1.) Causal therapy comprises optimal diabetes treatment including lifestyle modification as well as multifactorial cardiovascular risk intervention. The DCCT/EDIC study confirmed that intensive insulin therapy is essential for patients with type 1 diabetes to prevent DSPN or stop its progression. For patients with type 2 diabetes there is still no convincing evidence that optimal glucose control counteracts the progression of DSPN. Nevertheless, it is undisputed that this should be aimed at in patients with both type 1 and type 2 diabetes.
- 2.) To target the multifactorial pathogenesis of DSPN, experts also recommend a pathogenetically oriented pharmacotherapy. This aims at positively influencing not only the symptoms but also the neuropathic processes. For clinical use the antioxidant alpha lipoic acid and the lipid soluble thiamine derivate benfotiamine are available in many countries. For both compounds, an improvement of DSPN symptoms was shown in clinical trials and they show a favorable safety profile also during long term therapy.
- 3.) The third therapeutic approach is the symptomatic treatment of neuropathic pain by analgesic pharmacotherapy with antidepressants, anticonvulsants, opioids, capsaicin patch, and combinations if required. Non-pharmacological options like psychological support, physiotherapy, transcutaneous electrical nerve stimulation, and acupuncture should also be considered despite their relatively weak evidence, the experts say.

The detailed recommendations and algorithms on screening, diagnosis, and management of DSPN for clinical practice and more information on the consensus conference is available online at www.woerwagpharma.com/consensus-conference.

The consensus conference was sponsored by Wörwag Pharma, Boeblingen, Germany. The company is specialized in diabetic polyneuropathy and globally committed to prevention, early detection, and therapy of this diabetic complication.

Woerwag Pharma GmbH & Co. KG is a family-owned, pharmaceutical company headquartered in Boeblingen, Germany, developing and selling biofactor preparations worldwide. The company's product range is exclusively available in pharmacies and includes both prescription preparations as well as over the counter (OTC) products and food supplements. Therapeutic areas focus on diabetes and associated diseases, nervous system, and musculo-skeletal system. This year, the company celebrates its 50th anniversary.

Reference:

Ziegler D, Tesfaye S, Spallone V, Gurieva I, Al Kaabi J, Mankovsky B, Martinka E, Radulian R, Nguyen KT, Stirban AO, Tankova T, Varkonyi T, Freeman R, Kempler P, Boulton AJM. Screening, diagnosis and management of diabetic sensorimotor polyneuropathy in clinical practice: International expert consensus recommendations. *Diabetes Res Clin Pract.* 2021 Sep 18:109063. doi: 10.1016/j.diabres.2021.109063