

Treatment of diabetic peripheral neuropathic pain: a systematic review of clinical trials of phase II and III

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Diabetic Peripheral Neuropathic Pain (DPNP) is a common complication of diabetes, which affects a wide fraction of patients, and it's likely to increase due to the prevalence of Diabetes. Diabetic neuropathy is a complication associated with patient age, illness course and hyperglycaemia severity. DPNP pharmacologic treatment includes antidepressants, anticonvulsants, and opioid drugs, among others. However, and given the different pharmacologic options, pain relief is currently unsatisfactory in most of the cases.

The aim of this study was to systematically review randomized controlled trials of oral and topical pharmacotherapy for DPNP, including studies published in peer-reviewed journals in PUBMED and unpublished trials retrieved from ClinicalTrials.gov, reporting predefined efficacy and safety outcomes, published from 2010 on. Participants in these trials included people with diabetes mellitus and diabetic peripheral neuropathy who were given any treatment for diabetic peripheral neuropathy. Data from the trials were reviewed by two authors independently, and extracted using standardized data extraction sheets. From the 29 selected trials, 11 were elected after exclusion criteria were applied; these trials included drugs with different pharmacotherapeutic profiles. Significant improvement of pain was only reported for two trials: one with a serotonin and norepinephrine reuptake inhibitor and other with a cholinergic agonist of the nicotinic receptors. Both these drugs present statistically significant differences in the intensity of the pain when compared to placebo. Further investigation is required to fully explain the mechanisms of the nerve injury in order to develop a target therapy for DPNP, with more efficient pain control.

Keywords neuropathic pain, diabetic peripheral neuropathic pain, diabetes mellitus, drug, treatment