Cochrane Database Syst Rev. 2014 Apr 27;4:CD007938. doi: 10.1002/14651858.CD007938.pub3.

Gabapentin for chronic neuropathic pain and fibromyalgia in adults.

Moore RA[1], Wiffen PJ, Derry S, Toelle T, Rice AS.

Author information

Abstract

BACKGROUND: This review is an update of a review published in 2011, itself a major update of previous reviews published in 2005 and 2000, investigating the effects of gabapentin in chronic neuropathic pain (pain due to nerve damage). Antiepileptic drugs are used to manage chronic neuropathic pain and fibromyalgia.

OBJECTIVES: To assess the analgesic efficacy and adverse effects of gabapentin in chronic neuropathic pain and fibromyalgia.

SEARCH METHODS: We identified randomised trials of gabapentin for chronic neuropathic pain or fibromyalgia by searching the databases MEDLINE (1966 to March 2014), EMBASE (1980 to 2014 week 10), and CENTRAL in The Cochrane Library (Issue 3 of 12, 2014). We obtained clinical trial reports and synopses of published and unpublished studies from Internet sources, and searched Clinicaltrials.gov. Searches were run originally in 2011 and the date of the most recent search was 17 March 2014.

SELECTION CRITERIA: Randomised, double-blind studies reporting the analgesic and adverse effects of gabapentin in neuropathic pain or fibromyalgia with assessment of pain intensity, pain relief, or both, using validated scales. Participants were adults.

DATA COLLECTION AND ANALYSIS: Three review authors independently extracted efficacy and adverse event data, examined issues of study quality, and assessed risk of bias. We performed analysis using three tiers of evidence. First tier evidence derived from data meeting current best standards and subject to minimal risk of bias (outcome equivalent to substantial pain intensity reduction, intention-to-treat analysis without imputation for dropouts; at least 200 participants in the comparison, 8 to 12 weeks duration, parallel design), second tier from data that failed to meet one or more of these criteria and were considered at some risk of bias but with adequate numbers in the comparison, and third tier from data involving small numbers of participants that were considered very likely to be biased or used outcomes of limited clinical utility, or both.For efficacy, we calculated the number needed to treat to benefit (NNT), concentrating on at least 50% pain intensity reduction, and Initiative on Methods, Measurement and Pain Assessment in Clinical Trials (IMMPACT) definitions of at least moderate and substantial benefit. For harm we calculated number needed to treat for harm (NNH) for adverse effects and withdrawal. Meta-analysis was undertaken using a fixed-effect model. We emphasised differences between conditions now defined as neuropathic pain, and other conditions like masticatory pain, complex regional painsyndrome type 1 (CRPS-1), and fibromyalgia.

MAIN RESULTS: Seven new studies with 1919 participants were added. Another report (147 participants) provided results for a study already included, but which previously had no usable data. A further report (170 participants) used an experimental formulation of intrathecal gabapentin. Thirty-seven studies (5633 participants) studied oral gabapentin at daily doses of 1200 mg or more in 12 chronic pain conditions; 84% of participants were in studies of postherpetic neuralgia, painful diabetic neuropathy or mixed neuropathic pain. There was no first tier evidence.Second tier evidence for the outcome of at least 50% pain intensity reduction,

considered valuable by patients with chronic pain, showed that gabapentin was significantly better than placebo in postherpetic neuralgia (34% gabapentin versus 21% placebo; NNT 8.0, 95% CI 6.0 to 12) and painful diabetic neuropathy (38% versus 21%, NNT 5.9, 95% CI 4.6 to 8.3). There was insufficient information in other pain conditions to reach any reliable conclusion. There was no obvious difference between standard gabapentin formulations and recently-introduced extended-release or gastro-retentive formulations, or between different doses of gabapentin.Adverse events occurred significantly more often with gabapentin. Persons taking gabapentin could expect to have at least one adverse event (62%), withdraw because of an adverse event (11%), suffer dizziness (19%), somnolence (14%), peripheral oedema (7%), and gait disturbance (9%). Serious adverse events (3%) were no more common than with placebo.There were insufficient data for direct comparisons with other active treatments, and only third tier evidence for other painful conditions.

AUTHORS' CONCLUSIONS: There was no top tier evidence that was unequivocally unbiased. Second tier evidence, with potentially important residual biases, showed that gabapentin at doses of 1200 mg or more was effective for some people with some painful neuropathic pain conditions. The outcome of at least 50% pain intensity reduction is regarded as a useful outcome of treatment by patients, and the achievement of this degree of pain relief is associated with important beneficial effects on sleep interference, fatigue, and depression, as well as quality of life, function, and work. About 35% achieved this degree of pain relief with gabapentin, compared with 21% for placebo. Over half of those treated with gabapentin will not have worthwhile pain relief. Results might vary between different neuropathic pain conditions, and the amount of evidence for gabapentin in neuropathic pain conditions except postherpetic neuralgia and painful diabetic neuropathy, and in fibromyalgia, is very limited.The levels of efficacy found for gabapentin are consistent with those found for other drug therapies in postherpetic neuralgia and painful diabetic neuropathy.

Update of

Cochrane Database Syst Rev. 2011;(3):CD007938.

PMID: 24771480 [PubMed - in process]

Publication Types

LinkOut - more resources

PubMed Commons

PubMed Commons home

0 comments

How to join PubMed Commons