Gabapentin add-on for drug-resistant partial epilepsy
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Authors' objectives
Background: The majority of people with epilepsy have a good prognosis and their seizures are well controlled by a single antiepileptic drug, but up to 30% develop drug-resistant epilepsy, especially those with partial seizures. In this review we summarise the current evidence regarding the antiepileptic drug gabapentin, when used as an add-on treatment for drug-resistant partial epilepsy.

Objectives: To evaluate the efficacy and tolerability of gabapentin when used as an add-on treatment for people with drug-resistant partial epilepsy.

Search methods: This is an updated version of the original Cochrane review published in The Cochrane Library 2009, Issue 4. We searched the Cochrane Epilepsy Group's Specialised Register (14 May 2013), the Cochrane Central Register of Controlled Trials (CENTRAL 2013, Issue 4, The Cochrane Library) (April 2013) and MEDLINE (1946 to 14 May 2013). We imposed no language restrictions.

Selection criteria: Randomised, placebo-controlled, double-blind, add-on trials of gabapentin in people with drug-resistant partial epilepsy. Trials using an active drug control group or which compared doses of gabapentin were also included in the review.

Data collection and analysis: Two review authors independently selected trials for inclusion and extracted the relevant data. We assessed the following outcomes: (a) seizure frequency and seizure freedom; (b) treatment withdrawal (any reason); (c) adverse effects. Primary analyses were intention-to-treat. We also undertook sensitivity best and worst-case analyses. We estimated summary risk ratios for each outcome and evaluated dose-response in regression models.

Main results: Eleven trials were included representing 2125 randomised participants. We combined data from six trials in meta-analyses of 1206 randomised participants. The overall risk ratio (RR) for 50% or greater reduction in seizure frequency compared to placebo was 1.89 (95% confidence interval (CI) 1.40 to 2.55). Dose regression analysis (for trials in adults) shows increasing efficacy with increasing dose, with 25.3% (19.3 to 32.3) of people responding to 1800 mg of gabapentin compared to 9.7% on placebo, a 15.5% increase in response rate (8.5 to 22.5). The RR for treatment withdrawal compared to placebo was 1.05 (95% CI 0.74 to 1.49). Adverse effects were significantly associated with gabapentin compared to placebo. Risk ratios were as follows: ataxia 2.01 (99% CI 0.98 to 4.11), dizziness 2.43 (99% CI 1.44 to 4.12), fatigue 1.95 (99% CI 0.99 to 3.82) and somnolence 1.93 (99% CI 1.22 to 3.06). No significant differences were found for the adverse effects of headache (RR 0.79, 99% CI 0.46 to 1.35) or nausea (RR 0.95, 99% CI 0.52 to 1.73). Overall the studies together are rated as low/unclear risk of bias due to information on each risk of bias domain not being available.

Authors' conclusions: Gabapentin has efficacy as an add-on treatment in people with drug-resistant partial epilepsy. However, the trials reviewed were of relatively short duration and provide no evidence for the long-term efficacy of gabapentin beyond a three-month period. The results cannot be extrapolated to monotherapy or to people with other epilepsy types.


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