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[Intervention Review]

Lamotrigine adjunctive therapy for refractory generalized tonic-clonic seizures

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ABSTRACT

Background

Primary generalized tonic-clonic seizures are one of a number of generalized seizure types which also includes absence, myoclonic and atonic seizures. Effective control of tonic-clonic seizures is required to reduce the risk of injury and death and to improve quality of life. While most people achieve seizure control with one antiepileptic drug, around 30% do not and usually take a combination of antiepileptic drugs.

Objectives

To assess the effectiveness of adjunctive lamotrigine for refractory primary generalized tonic-clonic seizures.

Search methods

We searched the Cochrane Epilepsy Group Specialized Register, the Cochrane Central Register of Controlled Trials (CENTRAL) and MEDLINE (Ovid) 1950 to June 2010. No language restrictions were imposed. We also contacted GlaxoSmithKline, manufacturers of lamotrigine.

Selection criteria

Randomised parallel or cross-over add-on trials of add-on lamotrigine for refractory primary generalized tonic-clonic seizures.

Data collection and analysis

Outcome measures were: proportion of people (1) with 50% or greater reduction in frequency; (2) with cessation of seizures; (3) who had treatment withdrawn; (4) with adverse effects; and (5) cognitive effects; (6) quality of life outcome measures. Data were independently extracted by review authors.

Main results

Two small trials were found that met the inclusion criteria. Due to differences in study design we decided not to undertake a meta-analysis. One placebo controlled cross-over trial (26 participants) showed a significant 50% reduction in tonic-clonic seizure frequency with lamotrigine. Rash was the only adverse effect causing discontinuation (N = 7). A placebo controlled parallel trial comparing 117 participants found a significant median percent reduction in tonic-clonic seizure frequency of 66.5% with lamotrigine compared with 34.2% with placebo (P = 0.006). The most common adverse events were dizziness, somnolence and nausea.

Authors' conclusions

Two short term trials indicate that lamotrigine has efficacy against primary generalized tonic-clonic seizures; however, this evidence is insufficient to inform clinical practice and longer term active controlled trials are required.

PLAIN LANGUAGE SUMMARY**Lamotrigine adjunctive therapy for refractory generalized tonic-clonic seizures**

There is limited evidence that adjunctive lamotrigine reduces seizure frequency in patients with refractory primary generalized tonic-clonic seizures.