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Title **A Randomized Controlled Trial Examining the Longer-Term Outcomes of Standard Versus New Antiepileptic Drugs; The SANAD Trial**

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Aim

To compare the effectiveness and cost effectiveness of standard and new antiepileptic drugs.

Conclusions and results

Participants: 1721 patients were recruited to Arm A; 716 to Arm B.

Arm A

Lamotrigine had the lowest incidence of treatment failure and was statistically superior to all drugs for this outcome with the exception of oxcarbazepine. At 1 and 2 years after remission 12% and 8% fewer patients, respectively, experienced treatment failure on lamotrigine than on carbamazepine (the standard drug). Lamotrigine's superiority over carbamazepine was due to its better tolerability, but satisfactory evidence indicates that lamotrigine is not clinically inferior to carbamazepine for measures of its efficacy (treatment failure due to inadequate seizure control and time to achieving 12-month remission). No consistent differences in quality-of-life outcomes were found between treatment groups, although patients achieving a 12-month remission by 2 years after randomization had quality-of-life outcomes superior to those who had not, and patients who had experienced treatment failure exhibited poorer quality of life than those who remained on their randomized treatment. Health economic analysis supported lamotrigine being preferred to carbamazepine for both cost per seizure avoided and cost per QALY gained. Probability is high that lamotrigine is a cost-effective alternative to carbamazepine.

Arm B

As regards time to treatment failure, valproate (the standard drug) was preferred to both topiramate and lamotrigine. Valproate was the drug least likely to be associated with treatment failure for inadequate seizure control and was the preferred drug for time to achieving a 12-month remission. Quality-of-life assessments did not show any between-treatment differences, although patients achieving a 12-month remission by 2 years after randomization had superior quality-of-life outcomes to those who had not, and patients who had experienced a treatment failure outcome exhibited poorer quality of life. Health economic assessment supported the conclusion that valproate should remain the drug of first choice for idiopathic generalized or unclassified epilepsy, although topiramate is suggested as a cost-effective alternative to valproate.

Recommendations

The study provides evidence that lamotrigine may be a clinical and cost-effective alternative to carbamazepine (the standard drug treatment) for patients diagnosed with partial seizures. For patients with idiopathic generalized epilepsy, or difficult-to-classify epilepsy, valproate remains the most effective drug clinically, but topiramate may be a cost-effective option for some patients.

Methods

See Executive Summary link at www.hta.ac.uk/project/1031.asp.

Further research/reviews required

See Executive Summary link at www.hta.ac.uk/project/1031.asp.

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