

FELBAMATE, GABAPENTIN AND TOPIRAMATE AS ADJUVANT ANTIEPILEPTIC DRUGS IN EXPERIMENTAL MODELS OF EPILEPSY

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Newly diagnosed epileptic patients start their medication with monotherapy. Around 30% of epileptic patients require more than one antiepileptic drug. Results from experimental studies provide evidence that administration of two antiepileptic drugs may result in antagonistic, additive, or supra-additive (synergistic) anticonvulsant effects. If adverse effects of a synergistic combination also show supra-additive summation then the protective index may not change. In this context, drug combinations, possessing synergistic anticonvulsant effects and additive (or infra-additive) toxicity, are of clinical interest. Recent experimental data indicate that topiramate and gabapentin generally potentiate the protective activity of conventional antiepileptic drugs against maximal electroshock-induced convulsions in mice. The anticonvulsant action of carbamazepine, diphenylhydantoin, phenobarbital, and valproate was not modified in this test by felbamate at subprotective doses against threshold electroconvulsions. Interestingly, conventional antiepileptics (at subeffective doses) enhanced the protection offered by felbamate. It may indicate that beneficial effects of a drug combination may be observed at only some drug ratios.

Key words: antiepileptics, combined treatment, drug interactions, seizures, epilepsy