ALLOPURINOL DOES NOT AFFECT THE ANTICONVULSANT ACTIVITY OF CARBAMAZEPINE AND VALPROATE IN MAXIMAL ELECTROSHOCK-INDUCED CONVULSIONS IN MICE

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Allopurinol, an inhibitor of xanthine oxidase, is indicated in the management of patients with elevated serum and urinary uric acid levels. It was also reported to be beneficial in patients with epilepsy when added to traditional antiepileptic drug. Here, we investigated the effect of allopurinol upon the electrical seizure threshold and its effect on the protective efficacy of common antiepileptic drugs, carbamazepine (CBZ) and valproate (VPA) against maximal electroshock (MES)-induced convulsions in mice. We found that allopurinol administered at doses of 5, 15 or 45 mg/kg, did not affect electrical seizure threshold. When administered acutely or for a prolonged period of time (5 times every 24 h), it did not affect anticonvulsant activity of CBZ and VPA in MES. Free plasma concentration of both anticonvulsants was not affected by allopurinol given at a dose of 45 mg/kg for 5 days. Thus, our results did not support suggestions that allopurinol can be beneficial as add-on drug in the management of epilepsy at least in patients treated with CBZ or VPA.

Key words: Allopurinol, carbamazepine, valproate, seizures, mice

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