Omeprazole affects neither electroconvulsive threshold nor anticonvulsant activity of diphenylhydantoin and carbamazepine in mice

Mariusz J. Świder¹, Jarogniew J. Łuszczki², Sławomir Pilip¹, Maria Kozicka¹, Jolanta Parada-Turska³, Stanisław J. Czuczwar²,4

¹Department of Pharmacology and Toxicology, ²Department of Pathophysiology, ³Department of Rheumatology, Medical University of Lublin, PL 20-090 Lublin, Jacezewskiego 8, Poland
⁴Department of Physiopathology, Institute of Agricultural Medicine, PL 20-960 Lublin, Jacezewskiego 2, Poland

Correspondence: Stanisław J. Czuczwar, e-mail: czuczwanj@yahoo.com

Abstract:
Omeprazole is a commonly prescribed drug for patients with peptic ulcerations. Its main mechanism of action is related to inhibition of H⁺-K⁺-ATPase, albeit it may also block carbonic anhydrase. This study evaluates the effects of acute and prolonged (3- or 7-day) intragastrical administration of omeprazole on the anticonvulsant activity of carbamazepine or diphenylhydantoin against maximal electroshock-induced seizures in mice. Omeprazole administered acutely, for 3 days or 7 days did not alter the electroconvulsive threshold in mice. Moreover, the drug did not affect the anticonvulsant activity of the tested antiepileptic drugs.

Key words: omeprazole, carbamazepine, diphenylhydantoin, maximal electroshock-induced seizures