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Combination of Valproate and Paroxetine in mice exposed to picrotoxin

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The frequent coexistence of depression in epileptic patients raises the issue of simultaneous use of antidepressants along with antiepileptic drugs in the management of such cases. However, it is necessary to evaluate the safety of these antiepileptic/antidepressant drug combinations. The present study investigates the effect of the antidepressant paroxetine (a selective serotonin reuptake inhibitor) administered alone or in combination with the anti-epileptic drug sodium valproate on chemo-convulsions induced by Picrotoxin (PTX). Seizure score was recorded *in vivo,* and the levels of thio-barbituric acid-reactive substances and gamma amino-butyric acid (GABA) were measured in the nucleus accumbens of the tested groups of mice. The results show enhancement of seizure severity with significant reduction in GABA levels upon PTX treatment that were reversed by its combination with sodium valproate. On the other hand, paroxetine administered in combination with sodium valproate provided significant protection against PTX-induced convulsions as well as a significant increase in GABA levels in selected brain areas. These results favor their application in management of epilepsy-depression comorbidities.

Biography

Sahar M Kamal has received her MD in Basic and Clinical Pharmacology from Pharmacology Department, Faculty of Medicine, Ain Shams University during the period of May 1997- May 2001. Currently, she is working as Professor of Pharmacology in Ain Shams University. She lectures on Basic & Clinical Pharmacology in both faculties of Medicine and Dentistry in Ain Shams University, Cairo, Egypt. She is serving as an editorial member of several reputed journals like *Journal of Neurological Disorders* and expert Reviewer for *Journal of Experimental Pharmacology*. She has authored 24 research articles.

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