

Effect of Amlodipine on Dichlorvos-Induced Seizure in Mice

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Abstract : Dichlorvos a synthetic organophosphate poisons are used as insecticide. These toxins can be used insecticides in agriculture and medicine for destruction and/or eradication of ectoparasites of animals. Studies have shown that Dichlorvos creation seizure effects in different animals. Amlodipine, dihydropyridine calcium channel blockers, widely used for treatment of cardiovascular diseases. Studies have shown that the calcium channel blockers are anticonvulsant effects in different animal models. The aim of this study was to determine the effect of Amlodipine on Dichlorvos-induced seizures in mice. In this experiment, the animals were received different doses of Amlodipine (2.5, 5, 10, 20 and 40 mg/ kg b.wt.) intraperitoneally 30 min before intraperitoneal injection of Dichlorvos (50 mg/kg b.wt). After Dichlorvos injection, clonic and tonic seizures, and finally was the fate was investigated. Results showed that Amlodipine dose-dependently reduced the severity of Dichlorvos-induced seizures, so that Amlodipine at a dose of 5mg (The lowest, $p < 0.05$) and 40 mg/kg b.wt. (The highest, $p < 0.001$) which had anticonvulsant effects. The anticonvulsant activity of Amlodipine suggests that possibly due to the antagonistic effect on voltage-dependent calcium channel.

Keywords : dichlorvos, amlodipine, seizures, mice

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