

Anticonvulsant effect of bosentan

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In this study, the potential anticonvulsant effect of the mixed endothelin-A/endothelin-B-receptor antagonist bosentan was evaluated. In pentylenetetrazole (PTZ)-induced convulsions in mice, the administration of bosentan in doses of 50, 100 and 200 mg/kg orally produced a dose-dependent protection against clonic convulsions induced by PTZ (65 mg/kg) with a PD₅₀ of about 150 mg/kg. Sodium valproate 160 mg/kg orally produced 50% protection against PTZ-induced clonic convulsion. However, bosentan failed to produce a significant protection against tonic convulsion induced by PTZ (100 mg/kg) in mice ; while, sodium valproate (160 mg/kg orally) produced a significant protective effect. Bosentan (100 mg/kg orally) also protected the rat from clonic convulsions induced by intracerebroventricular injection of L-glutamic acid monosodium salt in rats. The results indicated that bosentan had anticonvulsant effect against chemically-induced convulsion and may be useful in the treatment of absence seizure and/or psychomotor epilepsy in human.