EVALUATION OF ANTICONVULSANT ACTIVITY OF THE MONOTERPENE SYNTHETIC (1S)-(-)-VERBENONE

MELO, C.G.F.¹; SALGADO, P.R.R.¹; FONSECA, D.V.¹; CALDAS FILHO, M.R.D.¹; BRAGA, R.M.¹; ARAGÃO NETO, H.C.¹; FARIAS, I.E.V.¹; SOUSA, D.P.¹; ALMEIDA, R.N.¹

¹Departamento de Ciências da Saúde, Instituto de Pesquisas Farmacêuticas, Universidade Federal da Paraíba, Paraíba, Brazil.

Epilepsy is a medical disorder generally defined as a tendency to recurrent seizures can manifest as cognitive disorders or awareness, involuntary movements, behavioral automatic or autonomic, sensory and psychic manifestations. Thus, increasingly seeking to discover new drugs that are capable to reduce or minimize the symptoms caused by epilepsy. Naturally occurring or synthetic products have increasingly been the target of research and pharmaceutical industries, since they have great pharmacological properties. (1S)-(-)-verbene is a bicyclic monoterpenic ketone occurring naturally as pheromones of insects and essential oils of some plants. Thus, this study aims to evaluate the anticonvulsant activity of (1S)-(-)-verbene. For this, specific methodologies were carried out as induced seizure by pentylenetetrazol (PTZ) Maximal electroshock (MES) in swiss mice treated with doses of 150, 200 and 250mg/kg (1S)-(-)-verbene. The PTZ test (1S)-(-)-verbene increased latency for the first seizure, 131s (150mg/kg), 733s (200mg/kg) and 565s (250mg/kg) compared with the control 51.8s, and the dose of 200mg/kg significantly better with p <0.0001 (ANOVA Dunnett post). This dose also reduced the percentage of tonic-clonic seizure (TC = 0%), and myoclonic (MC = 25%) compared to the control TC = 75% and MC = 100%. It also reduced the percentage of death to 0% in the control 75%. In the MES test was assessed term extension of the lower limbs, characteristic of generalized tonic-clonic seizure. (1S)-(-)-verbene reduced to 3.2S, and 7.5s 8.2s at doses 150, 200 and 250mg/g, respectively. The dose of 150mg/kg was significantly better with p<0.0001 (ANOVA Dunnett's post test), when compared with the control 17.8s. Also hear reduction in the percentage of death to 0% in the control 15.5%. We conclude that (1S) -(-)-verbene exhibits anticonvulsant activity may be related to the GABAergic system and anticonvulsant activity in the MES test, which is dose dependent activity.

Keywords: Epilepsy. Anticonvulsant. (1S)-(-)-verbene.