ANXIOLYTIC AND ANTICONVULSANT EFFECT OF A FRACTION SULFATED POLYSACCHARIDE EXTRACTED OF MARINE ALGAE ON MICE’S CENTRAL NERVOUS SYSTEM.

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Introduction: Currently, there is a large interest on development of drugs from natural sources. Studies with Acanthophora muscoides a red seaweed demonstrated that this sulfated polysaccharides have an antinociceptive, anti-inflammatory, antiedematogenic and antithrombotic activities. However, there are still no studies demonstrating activities on the Central Nervous System (CNS). Aims: This work aimed to evaluate the effects of sulfated polysaccharides from A. muscoides in the CNS of mice using neurobehavioral tests: Open Field (O.F.), Rota-rod (R.R.), Hole Board (H.B.) and Plus Maze (P.M.). Material and Methods: Swiss male mice from Vivarium Central of Universidade Federal do Ceará, weighing between 28-32g were used on this work. The animals were randomly divided into five groups (n = 10) and subsequently treated with a Sulfated Polysaccharide 0.75M fraction (AmII) at doses of 1, 10 or 100 mg/kg, intravenously (i.v.); Diazepam as a positive control [2 mg/Kg, intraperitoneal (i.p.), in O.F. and R.R.; 1mg/Kg, i.p., in the H.B.] and Saline, i.v., as negative control group. After 30 minutes, they were underwent to neurobehavioral tests. In the strychnine-induced seizures test the animals were treated with strychnine (75 mg/Kg, i.p.) 30 min later AmII (1 mg/Kg) injection and they were immediately monitored. Results: In O.F. the results showed that AmII (1 mg/Kg) decreased number of squares crossed by animals, compared to the negative control group. In the R.R., coordination of the animals was not changed. AmII (100 mg/Kg) increased the number of head dips in the hole board test and also increased the parameters PEOA, TPOA and PTOA in the plus maze test. Strychnine-induced seizures test increased lag time of seizures and death time. Conclusion: AmII (100 mg/kg) showed anxiolytic effect and strychnine-induced seizures test has neuroprotective potential.

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