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Central inhibitory effect of a galactomannan from *Caesalpinia ferrea*: Protection of pentylenetetrazole-induced epileptic seizures in mice

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Leguminous plant polysaccharides of galactomannan type are described for its anticonvulsive and inhibitory effects in the central nervous system, but there is no report of *Caesalpinia ferrea* galactomannan. Neuropharmacological effects of *C. ferrea* galactomannan (Cf-GM) were investigated in mice. GM, extracted from C. ferrea seed endosperm, was administered intraperitoneally (i.p.) at 1, 9 and 27 mg/kg in male Swiss mice (25-35 g) and compared to controls. Animals were evaluated 30 minutes after Cf-GM in the following behavioral tests: open field (exploratory activity), plus maze (anxiety), tail suspension (depression) and acute seizures induced by pentylenotetrazole (70 mg/kg; i.p.). Protocols were approved by the Ethics Committee for the use of animals of UECE (CEUA, n°3484042/2017). In the open field, Cf-GM reduced the animal behavior at all doses compared to saline: at 9 mg/kg [n° of crossing (30.57±2.159 vs. 74.67±6.375); n° of rearing (11.29±1.523 vs. 28.57±2.894)]. In the plus maze, Cf-GM (9 mg/kg) inhibited the n° of entries in open arms (2.86±0.738 vs. saline: 7.17±0.980) and increased the n°of entries in close arms (13.17±0.9804 vs. saline: 8.167±0.8724). In addition, Cf-GM (9 mg/kg) increased the immobility time (s) (117.2±10.06 vs. saline: 59.71±8.507) in the tail suspension and increased the death latency (s) (959.8±127.8 vs. saline: 169.4±41.29) in the pentylenotetrazole-induced acute seizure. In conclusion, Cf-GM presents inhibitory effect in the central nervous system associated with protection of pentylenetetrazole-induced epileptic seizures in mice.

Biography

Edna Maria Camelo Chaves has completed her PhD from Federal University of Ceará. She is an Adjunct Professor at the State University of Ceará, working in the Postgraduate Program in Physiology. She has published more than 13 papers in reputed journals.

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