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ANTIINFLAMMATORY ACTIVITY OF ABAREMA COCHLIACARPOS EXTRACT IN A MURINE PERITONEAL MACRAPHAGES MODEL

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Introduction and aims: *Abarema cochliacarpus* (Gomes) Barneby & Grimes (Fabaceae), known by the vulgar name of Babatenã, is a tree species in the legume family Mimosaceae (IUCN, 2009) and is widely used in folk medicine in Northeast Brazil, as an anti-inflammatory remedy. This study was designed to evaluate the anti-inflammatory activity of the butanolic fraction (BF) of *A. cochliacarpus* and its major constituent (+)-catechin and deep insight into action mechanism involved in its effect in lipopolysaccharide (LPS)-stimulated murine peritoneal macrophages. Methods: The extraction and characterization were carried out according to the procedure described by da Silva et al, 2010. Cell viability was assayed by sulphorhodamine (SRB) assay and the generation of nitrites by the Griess method. Changes in cyclo-oxygenase (COX)-2, inducible nitric oxide synthase (iNOS) and mitogen-activated protein kinase (MAPK) proteins expression were detected by western blotting. Results: BF from *A. cochliacarpus* was characterized by a high content polyphenols. Its major constituents were catechins, into condensate class of tannins, and the minor were its dimers and trimmers. The nuclear magnetic resonance (NMR) spectra in dimethyl-d₆ sulfoxide (DMSO-d₆) characterization shown the major constituent was (+)-catechin. Different doses of BF or (+)-catechin did not affect macrophages cell viability. The generation of nitrites was significantly prevented in 25 and 50 µg/mL BF and 100 µM (+)-catechin-treated cells (62,1±8,8, 30,1±4,0 and 44,7±0,8%, p<0,01 vs LPS respectively). Cell treatment with the highest dose of BF and (+)-catechin produced a down-regulation of pro-inflammatory enzymes COX-2 (68,4±4,0 and 29,3±11,9% p<0.05 and p<0.01, respectively) and iNOS (56,7±6,5 and 28,8±0,4, p<0.05 and p<0.01, respectively). Besides BF and (+)-catechin-treated macrophages showed a decreases in the phosphorylation of p38 MAPK protein expression (78,8±3,3 and 38,9±0,3%, p<0.05, respectively). Conclusion: These data suggest that *A. cochliacarpus* possess anti-inflammatory effect in murine peritoneal macrophages. According to these preliminary results, these effects could be due in part to its major constituent (+)-catechin.

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