Analgesic and anti-inflammatory activity of *Anadenanthera macrocarpa* in vivo models of acute inflammation

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**Key Words:** Anadenanthera macrocarpa; anti-inflammatory; antinociceptive.

**Introduction:** The *Anadenanthera macrocarpa*, popularly known as “angico”, is used as anti-inflammatory in the folklore medicine.

**Methods:** This work evaluated the anti-inflammatory and antinociceptive activity in vivo of the bark ethanolic extract (CHE) of the plant *A. macrocarpa* the National Forest Contendas do Sincorá (FLONA), semi-arid region of Bahia, northeastern Brazil. The antinociceptive and anti-inflammatory activities were evaluated by the following tests: writhing evoked by acetic acid, formalin-induced hypernociception, Von Frey’s test, determination of neutrophil migration to the peritoneal cavity and Evans Blue test. Peritoneal exudates were recovered for cytokine measurement. Levels of TNF-α and IL-10 were determined by ELISA. The CAM-1 expression was evaluated in mesenteric tissues induced by carrageenan injection and assessed by Western blot analysis. Male Balb-C mice were used (20–25 g; n=6) and the experiments were approved by the Ethics Committee of the University of Uberaba (protocol 0107/2009). Anova one way, post test Bonferroni, significance p<0.05.

**Results/Discussion:** The CHE showed statistical significant results for antinociceptive activity by writhing test (Control 38.0 ± 17.25) 50 mg/kg (25.20 ± 13.07) e 100 mg/kg (34.17 ± 22.65), causes reduction the number of flinches (Control 49.83 ± 23.01) 50 mg/Kg (5.17 ± 4.07) and 100 mg/kg (8.67 ± 7.47) and Von Frey test (Control 9.02 ± 1.04) 100 mg/kg (4.57 ± 3.35). The CHE showed anti-inflammatory activity by inhibiting neutrophil migration (Control 2.26 ± 0.9) 100 mg/kg (2.12 ± 0.58) e 200 mg/kg (1.78 ± 0.86) (p <0.05) and vascular permeability (Control 7.0 ± 1.96) 100 mg/kg (4.25 ± 0.82) at peritonitis evoked by Cg (p <0.05). The CHE increased levels of IL-10 and didn’t modulate TNF-α levels. Reduced the ICAM-1 expression compared to Cg group (0.52 ± 0.99) (p<0.05).

**Conclusion:** *A. macrocarpa* possesses antinociceptive and anti-inflammatory activities, being a promising new phytotherapeutic.

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