



Evaluation of the anti-inflammatory and antinociceptive activities of *Marsypianthes sp.* essential oil

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The genus *Marsypianthes sp.* is uniquely American and has six species (*M. chamaedrys*, *M. montana*, *M. foliosa*, *M. arenosa*, *M. burchellii*, *M. hassleri*) distributed in Latin America (1). The aim of this work was to evaluate the possible anti-inflammatory and antinociceptive activities of *Marsypianthes sp.* essential oil (EO). Samples of the plant were collected in November/2013, in Siriema's and Cariocas' trails, both places located at National Park of Chapada dos Veadeiros (Alto Paraíso de Goiás, Goiás, Brazil) and received the registry CEN 88269. EO was obtained by hydrodistillation using Clevenger apparatus. Mice (n=6-8) were pretreated with (1, 10, 30 or 100 mg/kg, p.o.) 1h before each experimental model and vehicle group received tween 80. Antinociceptive and anti-inflammatory effects were evaluated in formalin-induced licking of paw and subcutaneous air pouch (SAP) models (2). Statistical analysis was performed by ANOVA followed by Bonferroni's test (*p<0.05). Results are expressed as mean ± SD. Protocols for animal use received number #DFBCICB015-04/16 (COBEA/UFRJ/Brazil). EO significantly reduced 1st and 2nd phases of formalin-induced licking. For 1st phase: vehicle-treated group = 53.8±9.4sec, 1 mg/kg = 56.5±11sec, 10 mg/kg = 38.5±4.7, 30 mg/kg = 26.1±3.9*sec, 100 mg/kg = 28.4±2.8* sec. For 2nd phase: vehicle-treated group = 209.4±5sec, 1 mg/kg = 200.3±57.2sec, 10 mg/kg = 122.9±47.9* sec, 30 mg/kg = 109.4±41.3* sec, 100 mg/kg = 94.3±50.5* sec. Cell migration into SAP was also inhibited: PBS in SAP group = 0.9±0.3 cellsx10⁶/mL, carrageenan in SAP group = 91±11.7 cellsx10⁶/mL, 1 mg/kg = 76.9±16.7cellsx10⁶/mL, 10 mg/kg = 59.2±3.9* cellsx10⁶/mL, 30 mg/kg = 54.9±7.6* cellsx10⁶/mL, 100 mg/kg = 57.2±25.2* cellsx10⁶/mL. Our results suggest that EO from *Marsypianthes sp.* has significant antinociceptive and anti-inflammatory effects. The mechanism of action is under investigation.

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