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Evaluation of the activity of *Calea prunifolia* H.B.K on Central Nervous System, analgesic and anti-inflammatory

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Purpose: *Calea prunifolia* H.B.K. (Cp), known as "carrasposa" has traditionally been used in Colombia as a medicinal plant. The popular use is recommended as arterial hypotensive, antipruritic, antipyretic and antiseborreic. As part of the knowledge of its pharmacological profile, its effects on the central nervous system and as analgesic and anti-inflammatory were studied.

Materials and Methods: The extracts, aqueous (EACp), ethanolic (EPAP) and the Butanolic Fraction (FBu) of *Calea prunifolia* H.B.K., orally administered, were evaluated *in vivo* in albino Swiss adult mice. To study the effect on the central nervous system, the following tests were performed: Motor coordination test, Rota-Rod test, Evaluation of the Exploratory Activity: Open field test, Evaluation of hypnosis activity, Sleep induced by barbiturate and evaluation of body temperature. The evaluation of antinociceptive activity with the formaldehyde test, Tail-flick test and evaluation of analgesic activity, with the test of abdominal contortions induced by acetic acid. Proof of anti-inflammatory activity in the paw edema test and the carrageenan-induced peritonitis test.

Results: In the motor performance test (Rota Rod), the latency for the first drop and the residence time of the animals showed no difference between the treatments and the control, nor were there changes in body temperature. In the evaluation of the exploratory Activity, the EECp showed a significant difference ($p < 0.05$) in relation to the control, with greater number of crossings and the mobility time, both in the periphery and in the center of the field at doses of 0.1, 0.3 and 1 g / kg p.o. and FBu at the dose of 1 g / kg p.o. In the evaluation of the hypnosing activity, with the sleep test induced by pentobarbital (50mg / kg i.p.), a significant increase ($p < 0.05$) in the latency time was observed in all doses of FBu (0.1, 0.3 and 1 g / kg p.o.) and the highest dose of the EECp 1g / kg. A significant analgesic effect ($p < 0.05$) like indomethacin was observed in the 1.5% formaldehyde test (30 μ L / paw, s.p.), with the EACp and EECp at the highest concentration (1 g / Kg p.o.) relative to the control. In the Tail-flick test, there is a protective effect at 30 min of administration of the EACp at the dose of 0.5 mg / kg and a significant antinociceptive effect ($p < 0.01$) in the test of abdominal contortions induced by 0.8% acetic acid in mice, with administration of EACp (0.1, 0.2 and 0.5 g / kg p.o.). No anti-inflammatory effect was demonstrated in the tests used.

Conclusion: In these screening tests, Cp presents analgesic effects that must be evaluated and confirmed in the determination of its mechanisms of action, as a potential pharmacological resource for pain management.



Biography

Maria Esperanza Avella V. She is professor of pharmacology and therapeutics in the Medical and Surgical Clinics Area of the Faculty of Medicine of the Military University of Nueva Granada. Leader of the Research Group "Pharmacology, Toxicology and Therapeutics-UMNG" and responsible for the Research Seminar "Study of preclinical and clinical research of medicines for its development and application". As PhD student, he belongs to the Research Group: "Search for Bioactive Principles in Colombian Medicinal Plants" of the Department of Pharmacy of the Faculty of Sciences of the National University of Colombia in the city of Bogotá.

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