

Anticonvulsant effect of tea of *Jatropha curcas* Linn in mice

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Introduction: The genus *Jatropha* belongs to the Euphorbiaceae family, widely distributed in the wild or semi-cultivated areas in Central and South America, Africa, India and South East Asia. Ethnopharmacological studies show that the leaves and other parts of the *Jatropha curcas* are used in traditional medicine to treat wounds, fever, rheumatism, mouth infections, cancer, toothache, convulsions, cough and fever. Evaluation of *J. curcas* have demonstrated their different pharmacological effects, among them anticoagulant, coagulant, antidiabetic and neuroprotective. Phytochemical investigation on the chemical constituents of the *J. curcas* leaves have resulted in the isolation and structure identification of flavonoids and its glycosides, sterols, steroid sapogenins, alkaloids, triterpenes, and phorbol esters diterpenes, the main toxins present in oil and seeds, leaves, stems, flowers and roots of *J. curcas*. Pathological symptoms are related with the consumption of *J. curcas* in any form, oil, seeds, seed cake or extracts; however the young leaves may be safely eaten.

Objective: Evaluation of the anticonvulsant activity and of the chromatographic profile of adult and young leaf tea of *Jatropha curcas* Linn. **Methods:** The leaf tea was prepared by infusion, and then it was fractioned by liquid-liquid extraction into hexane, ethyl acetate and aqueous extracts. The chromatographic profile was carried using thin layer chromatography (TLC), and a reversed phase high performance liquid chromatography (HPLC). The activity anticonvulsant was assessed across by i.p. injections (0,1 mL) of diazepam (2mg/kg), aqueous extract of young leaves (50mg/kg; 100mg/kg or 200mg/kg), aqueous extract of adult leaves (50mg/kg; 100mg/kg or 200mg/kg) or saline (0,9%) (control animals) 30 min before of convulsant pentilenotetrazole (PTZ) (75 mg/kg). The frequency of non-protected animals for each dose was noted as well as the percent of deaths. All parametric data were submitted to analysis of variance (ANOVA). It was used $p < 0.05$. **Results:** The HPLC analyses showed the presence of three major flavonoids in ethyl acetate and aqueous fractions obtained of both adult and young leaf tea. Further studies will be conducted to identify these substances. Except for animal diazepam group, all others presented with generalized tonic-clonic seizure. However, when analyzing the latency of seizures, the animals treated with the adult leaves at the highest dose had a longer time compared to all other treatments [$F(7,47) = 16.80$]. When observed the number of deaths after treatment, the group treated with the aqueous extract young leaves at the highest dose was statistically different than treatments: saline ($\chi^2=5.33$), diazepam ($\chi^2=8.57$), aqueous extract adult leaves at a concentration 200mg/kg ($\chi^2=5.33$) and 100mg/kg ($\chi^2=5.33$). **Conclusion:** Our results showed that the aqueous extract young leaves increases the latency for seizures induced of PTZ. However, it was not observed the same behavior in mice whose pre-treatment was performed with the extract of adult leaves. Furthermore, chromatographic analysis indicated the predominant presence of three flavonoids in the aqueous leaf extract.

Keywords: Anticonvulsant; chromatography; Euphorbiaceae; *Jatropha curcas*.

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