Cardiotoxicity and Cytotoxicity in *Jatropha curcas* L. Extracts.

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Introduction: Brazil has a large diversity of plant species with bioactive compounds of pharmacological interest, such as *Jatropha curcas* L. (physic nut), plant of Euforbiaceae family, with limited use due to high toxicity. **Objectives**: Evaluate the phytochemical constituents, cytotoxicity and the cardiotoxicity of *J. curcas* L. extracts. **Materials and Methods:** Ethanolic crude extracts of stems, leaves, roots and seeds were used. This extracts were prepared with fresh samples (FS), and after drying at 105 °C (DS) for 24 hours. The phytochemical screening was performed by colorimetric methods and cardiotoxicity analysis were performed on isolated hearts of Wistar rats perfused by Langendorff technique, using serially diluted extracts (0.1, 1.0 and 10 µg/mL). In cytotoxicity tests were tested serial dilutions (0.31, 0.62, 1.25, 2.5 and 5 µg/mL) of seeds extracts FS and DS in cardiomyocyte culture (H2C9) and monkey kidney epithelial cells culture (MK2), incubated with supplemented DMEM medium, in 96 well plates at 37 °C and 5% CO_2 for 72h. Cell viability evaluation was done with 3H-thymidine and assessed for radioactivity counter βMatrix 9600. **Results**: The ethanolic crude extracts of FS and DS showed variations in catechins, steroids, flavonoids catechin tannins, simple phenols and xanthones. In cardiotoxicity tests, the extracts, of fresh and dried samples of stems and seeds induced sustained monomorphic ventricular tachycardia, at 10µg/mL. The reversed effect was verified only in fresh seeds extracts, after washing with Krebs-Henseleit solution. The extracts obtained from dried leaves and seeds (10µg/mL) induced *Torsades of pointes* irreversibly. In cytotoxicity tests, both extracts, produced from fresh and dry seeds were highly toxic to MK2 cells, but not on H2C9 cells. **Conclusion**: Physic nut extracts of leaves and seeds has high toxicity. Therefore, it will be necessary the isolation and purification of the toxic substances, in order to separately investigate the mechanisms involved in these toxic effects.

Keywords: Medicinal plants, bioactive products, toxicity.
Acknowledges: CAPES/PNPD, CNPq, FAPESB, FINEP, PETROBRÁS and EBDA.