Abstract

Ethnobotanical surveys of Cerrado native plants show that leaves of Celtis iguanaea (Jacq.) Sargent (Cannabaceae), popularly known in Brazil as “esporão de galo”, are used in folk medicine for body pain, asthma, cramps, poor digestion, urinary infection, kidney dysfunctions, as well as a stimulant and diuretic. This work aimed at evaluating possible C. iguanaea aqueous leaf extract (CALE) cytotoxicity, genotoxicity, and antigenotoxicity using the mouse bone marrow micronucleous test. To assess CALE genotoxicity, Swiss mice were orally treated with three different extract concentrations (100, 300, and 500 mgkg⁻¹). To evaluate its antigenotoxicity, the same doses were used simultaneously with a single i.p. dose of mitomycin C (MMC, 4mg.kg⁻¹). The frequencies of micronucleated polychromatic erythrocytes (MNPCE) were evaluated 24 h and 48 h after administration except for the negative control (24 h). Genotoxicity was evaluated using the frequency of micronucleated polychromatic erythrocytes (MNPCE), whereas cytotoxicity was assessed by the polychromatic and normochromatic erythrocytes ratio (PCE/NCE). The results showed that CALE did not exhibit a significant reduction in the PCE/NCE ratio, neither a considerable increase in the frequency of MNPCE. Nonetheless, CALE reduced bone marrow toxicity (increased PCE/NCE ratio) and decreased the micronuclei frequency induced by MMC. We can conclude that CALE presented no cytotoxic and genotoxic effects, but showed antigenotoxic and anticytotoxic actions under the experimental conditions applied in this study.

Keywords

Cytotoxicity, genotoxicity, mice, medicinal plant.