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TOXICITY ASSESSMENT OF AVOCADO SEED AQUEOUS EXTRACT

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ABSTRACT

Introduction: Natural products intake plays beneficial effects in prevention or mitigation diseases. However, many of these products can interact with traditional drugs and interfere with its metabolism, therapeutic action or exacerbate its hepatotoxic effects. Avocado seed (*Persea americana*) consists of phytochemicals compounds such as fatty acids, tocopherol, proanthocyanidin, hydrocarbons, steroid derivatives, glycid and saponin and its extract is popularly indicated to treat ulcer, gout and arthritis. Therefore, few studies have been conducted to evaluate the toxicity of natural extracts. **Objective:** The goal of this study was to assess the *in vivo* hepatotoxicity of aqueous extract of *Persea americana* seed. **Methods:** The extractive process of dry and ground seeds was carried out by infusion and after filtration, an extract was obtained at a concentration of 10%. To evaluate the toxicity of the extract, male Wistar rats were divided into 4 groups (n = 8): animals that received water (negative control); animals treated with water and paracetamol (positive control); animals that received only the extract and animals treated with the extract and paracetamol. Hepatic injury was induced in rats with administration of paracetamol at a dose of 3g/kg body weight, 24 h before euthanasia. The aqueous extract (10% w/v) was administered daily to the animals by gavage (0.9 mL/kg of body weight) for 15 days. Blood samples collected by cardiac puncture were used to analyze biochemical parameters (ALT and AST) and homogenized livers were used to determine lipid peroxidation. **Results:** The induction of liver damage was confirmed by an increase 5 and 2.5 times greater than the negative control for the enzymes ALT and AST, respectively. The animals treated only with the extract had twice the concentration of ALT and AST obtained by the negative control. The rats with liver injury and treated with the extract resulted in ALT and AST values 8 and 4.5 times greater,

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respectively, than the negative control. The seed extract administered to the animals also promoted an increase in lipid peroxidation when compared to the negative control, which also contributed to intensify the lipoperoxidation caused by paracetamol. Conclusion: The results suggest *in vivo* toxic effects of aqueous extract of avocado seed. These data are relevant because it is a natural product of popular use.

Keyword: Avocado seed; ALT and AST enzymes; Hepatic injury; Lipid peroxidation, Toxicity.