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TOXICOLOGICAL EVALUATION OF EXTRACT OBTEINED FROM *Piper cernuum* Vell. STEMS

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INTRODUCTION

Species of the genus *Piper* (Piperaceae) found in the Atlantic Forest, are widely used for medicinal purposes. Phytochemical studies performed for this family showed a wide variety of secondary metabolites such as lignans, terpenes, amides and flavonoids. In this study, we investigate the toxicological effects of ethanolic extract of *P. cernnum* Vell. stem extract.

MATERIAL AND METHODS

This study evaluated the cytotoxicity and hemolysis *in vitro* and the acute toxicity, subchronic and mutagenicity *in vivo* of extracts of stems of *Piper cernuum*. In the cytotoxicity study of both extracts (0.1, 1, 10, 100 and 1000 µg/mL), human hepatocellular carcinoma (HepG2) cells were used, analyzed by MTT. Wistar rats of both sexes were used to assess the acute toxicity (single dose of 2000 mg kg) and subchronic toxicity (50 and 250 mg/kg for 28 days). At the end of the experiments, blood and organ samples were collected for biochemical and histopathological analyzes.

RESULTS

In the *in vitro* assays, the stem extract of *P. cernuum* did not promote cytotoxicity or hemolysis when compared with the controls. In the acute toxicity test, biochemical analyzes demonstrated a decrease in AST levels in both male and female animals treated with extract. In the subacute test, an increase in relative (and absolute) weight of the spleen was observed in females treated with *P. cernuum* stem extract (50 mg/kg). Changes were also found in animals treated with the same extract at the concentration of 250 mg/kg, where there was an increase in the absolute weight of the spleen, heart, lungs and left kidney in female rats, as well as increases in FAL level in Male rats. During the evaluations of the *in vivo* tests, there were no deaths, no behavioral changes, no changes in water and feed consumption, and no hematological or histopathological changes. The stem extract were also unable to induce mutagenicity.

CONCLUSIONS

The results obtained provide data on the acute, subchronic and mutagenic oral toxicological profile of stems extract of *P. cernuum*, indicating safety for administration in acute or repeated doses.

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REFERENCES

WOLFF, F.; BROERING, M. F.; JURCEVIC, J. D.; ZERMIANI, T.; BRAMORSKI, A.; VITORINO, J. C.; MALHEIROS, A.; SANTIN, J. R. Safety assessment of *Piper cernuum* Vell. (Piperaceae) leaves extract: Acute, sub-acute toxicity and genotoxicity studies. **Journal of Ethnopharmacology**. v. 230, p. 109 - 116, 2019.

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