EFFECT OF AQUEOUS EXTRACT OF THE NATIVE POTATO SOLANUM sp “SIMI PUCA” ON DETOXIFICATION ENZYMES OF PHASE II IN A MODEL OF HYPERBILIRUBINAEMIA

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The native potatoes are the product of domestication, selection and conservation by our ancestors because of their resistance to pests and diseases and tolerance to abiotic factors such as frost and drought. These potatoes have secondary metabolites that would potentially be used in alternative medicine.

The objective of this study was to evaluate the effect of aqueous extract of native potato Solanum “puca simi” on detoxification hepatic enzymes of phase II in a model of hyperbilirubinemia.

Methodology: It has worked with four groups: Group I, Control, saline group; Group II, phenylhydrazine 60 mg/kg; Group III, potato extract 665 mg/kg; Group IV, potato extract and phenylhydrazine. It was determined serum levels of total bilirubin and hematocrit. Malondialdehyde (MDA), and the activities of glutathione S-transferase (GST), UDP-glucuronosyltransferase were determined in liver. Also was performed phytochemical reaction in order to identified secondary metabolites.

Results: The study found phytochemical polyphenols, flavonoids and lactones. The experimental model of hyperbilirubinemia had a significant decreased in hematocrit levels and total bilirubin increased in groups II and IV compared to control group I. Also was found a significant decrease (p <0.05) of lipoperoxidation in group III (1.53 nmol/g tej) and IV (1.56 nmol/g tej) compared to group II (2.03 nmol/g tej). The specific activity UDP-glucuronosyltransferase increased significantly (p <0.01) in the IV group compared to control and other groups, but the specific and total activity of glutathione S-transferase did not exhibit any significant difference in the four groups. The content of GSH was significantly (p <0.05) increased in the groups III and IV. Conclusion: The extract of native potato “puca simi” contains secondary metabolites which protects lipid peroxidation and increases significantly the activity of UDP-glucuronosyltransferase, enzyme phase II detoxification.