

Toxicity screening and hypocholesterolemic effect evaluation of aqueous extract of *anacardium occidentale* Linn. in hypercholesterolemic induced rabbits.

ABSTRACT

Previous findings have supported to the ethnopharmacological use of *Anacardium occidentale* Linn. in folk medicine. In this study, the toxicity properties and the hypocholesterolemic effect of aqueous extract of *Anacardium occidentale* Linn. were evaluated in hypercholesterolemic induced rabbits. Thirty Five male New Zealand White Rabbits were randomly assigned into five groups and fed with normal diet (NC), 0.5% high cholesterol diet (PC), 0.5% high cholesterol diet+10 mg/kg simvastatin (SC), 0.5% high cholesterol diet+100 mg/kg AOE (AOE100) and 0.5% high cholesterol diet+200 mg/kg AOE (AOE200). The study duration was set for 12 weeks. In vitro toxicity study has been performed using brine shrimp lethality test and MTT assay to determine the LC₅₀ and IC₅₀ values respectively while in vivo toxicity study has been evaluated in hypercholesterolemic induced rabbits. Blood samples were withdrawn at week 0 and 12. Supplementation of 0.5% high cholesterol diet caused the elevation of TC, LDL and TG and also significantly rise ($p < 0.05$) the level of liver enzymes compared to the normal control group. For in vitro toxicity screening, extracts demonstrated very low LC₅₀ values and no IC₅₀ value detected. For in vivo hypercholesterolemic induced rabbits, extracts were able to prevent the increment of liver enzymes: gammaglutamyl transferase, alkaline phosphatase, aspartate aminotransferase and alanine aminotransferase compared to positive control group. Aqueous extract of AO found to be not toxic and posses hypocholesterolemic and hepatoprotective effects in hypercholesteromic induced rabbits.

Keyword: *Anacardium occidentale*; Ethnopharmacological; Toxicity screening.