

Acute toxicity and antimalarial studies of extract of *Allophylus spicatus* in animals

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Abstract

Medicinal plants produce a variety of chemical substances with varied physiological effects. They are a huge reservoir of various chemical substances with potential therapeutic properties. *Allophylus spicatus* is a shrub that belongs to the Sapindaceae family. In this study, male albino wistar rats (18) were used for acute toxicity test. Animals were divided into six groups of three rats each. Group A served as the control group while the other groups were dosed orally with 200, 500, 1000, 2000 and 5000 mg/kg body weight of extract and were observed for 14 days. Swiss albino mice (42) were used for the antimalarial study; five groups of six infected mice per group (Groups C–G) were respectively dosed orally with 25 mg chloroquine/kg bw, 200 mg of extract/kg bw, 400 mg/kg bw of extract, 25 mg chl./kg bw + 200 mg/kg bw of extract and 25 mg chl./kg bw + 400 mg/kg bw extract with three groups serving as the control (Groups A–C) for three days. Acute toxicity test and histology analysis on the liver tissue confirmed the safety of the extract at concentrations less than 1000 mg/kg b/w. Antimalarial studies showed the highest activity in the group administered with 400 mg/kg + 25 mg chl./kg b/w. In conclusion, *A. spicatus* was non-toxic at doses less than 1000 mg/kg and significantly reduced parasitemia count in *P. berghei* infected mice, thus validating its folkloric usage. © 2021, Korean Society of Toxicology.

Author keywords

A. spicatus; Acute toxicity; Antimalarial; Malaria; Medicinal plants