ABSTRACT

Keeping in view the number of applications of *Thevetia peruviana* the study is focused on the toxic effects caused by its accidental use. Crude extract of the flowers of the plant was made by maceration process having percentage yield of 27.45%. Preliminary qualitative analysis of powdered drug of T. peruviana's flowers showed the presence of secondary metabolites i-e; alkaloids, glycosides and flavonoids. Presence of secondary metabolites was confirmed by performing phytochemical analysis of methanolic extract of *T. peruviana*. Major constituents present were alkaloids, glycosides, tanins, saponins, steroids and flavonoids. To perform acute toxicity single oral dosages (5 ,6, 7, 8 and 9 g/Kg/p.o, respectively) were administered to five different groups having (n=6) of albino mice, after which the changes in behavior was assessed. For performing the chronic toxicity, the rats were separated into three groups having (n=6). GI was given normal saline, GII was given the methanolic extract of *Thevetia peruviana* in dosage of 250 mg/kg/po and GIII was given 500 mg/Kg/po, orally over an uninterrupted three-months. The findings of an acute toxicity research showed that albino mice had an LD50 of *T. peruviana* is 5.2 g/Kg/po, and the abnormalities in behavior were observed in the mice, including hyper-secretions, irritation, sedation, hypersalivation and hyperactivity. The investigation of chronic toxicity proposed that the TPMe did not exhibit alterations in leukocytes, SGPT, and cholesterol level, a slight change in body weight but there was a significant change in the level of SGOT, leukocytes, platelets, hematocrit, haemoglobin, glucose, creatinine, ALP and TB. This change indicated that the toxic effects caused by TPMe ectract in the mice hematology and serology in group GIII having higher dose. For histopathology, the mice were dissected by giving ketamine to get the desired organs i-e; heart, brain, kidney and liver to detect any drastic effect on the tissues of the organs. The results of this study showed necrosis, edema, inflammation and slight changes in cell structure in the various parts of the organs which confirmed the toxicity caused by TPMe. It was concluded that the toxicity of TPMe was caused by very high dose so it could be used for treatment of various diseases but up to a certain dose because its higher dose might cause adverse effects on liver, kidney, bran and blood toxicity. However, more researches should be done to explore its genotoxicity and fetotoxicity.