ABSTRACT

Keeping in view the therapeutic applications of *Calotropis gigantea* the study is focused on the toxic effects caused by its irregular use. Crude extract of the seeds and flowers of the plant was made by maceration process having percentage yield of 22.73%. The characterization of the extract was performed via UV-VIS analysis i.e; Ultra-violet Visible spectroscopy and FTIR i.e; Fourier-transform infrared spectroscopy. Methanolic extract of C. gigantea (CgMe) extract demonstrates the highest peak at 280 nm of maximum absorption in UV-Vis region. The FTIR examination, showed the presence of aliphatic aldehyde, which is very strong, methylamino alkanes (strong), aromatic methane (weak), alkanes and intermolecular hydrogen linked OH with tertiary alcohol. To perform acute toxicity single oral dosages (7, 8, 9, 10, and 11 g/Kg/po, respectively) were administered to five different groups having (n=5) 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). G Ⅰ was given normal saline, G Ⅱ was given the methanolic extracts of *C. gigantea* in dosage of 400 mg/kg/po and GⅢ was given 800 mg/kg/po of CgMe, orally over an uninterrupted three-months. The findings of an acute toxicity research showed that albino mice had an LD50 of 7.5 g/Kg/po, and the abnormalities in behavior were observed in the mice, including hyper-secretions, hyper-salivation, irritation, sedation and cyanosis. The examination of chronic toxicity proposed that the CgMe did not exhibit any alternations in the body weight, SGOT, SGPT and hematocrit level but there was a significant change in the level of erythrocytes, leukocytes, platelets, haematology, glucose, creatinine, cholesterol, ALP and TB which indicated that the toxic effects caused by CgMe extract in mice hematology and serology in group G Ⅲ having higher dose. For histopathology, the mice were dissected by giving chloroform to get the desired organs i.e; heart, brain, liver and kidneys 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 various parts of the organs which confirmed the toxicity caused by CgMe. It was concluded that the toxicity of CgMe was caused by very high dose so it could be used for the treatment of various disease but up to a certain dose because its higher dose might cause adverse effects on liver, kidney, brain and blood toxicity. However, more researches should be done to explore its genotoxicity and fetotoxicity.