Abstract

This study investigated safety and hypoglycemic efficacy of ethyl acetate and aqueous extracts of *L. cornuta* in male BALB/c mice. Diabetes was induced by intraperitoneal administration of 186.9 mg/kg body weight dose of 10% alloxan monohydrate to overnight fasted mice. Diabetic mice were treated with 50, 100 and 200 mg/kg body weight doses of extracts and 3 mg/kg body weight of reference drug, glibenclamide. Blood glucose levels were compared with those of normal and diabetic untreated mice after every 2 hours for 8 hours post oral administration. Safety was evaluated by oral administration of 1 g/kg body weight of extracts to mice daily for 28 days. Changes in body weight weredetermined after every 7 days up to the 28^{th} day. On the 28^{th} day the mice were sacrificed; hematological and biochemical parameters determined by standard methods. These parameters included, total cells counts, AST, ALT, and ALP among others. Ethyl acetate extract was found to significantly reduce blood sugar in a dose independent manner, while aqueous extract did not exhibit hypoglycemic effect. Aqueous extracts significantly lowered body weight, RBCs, PCV, platelets and WBCs but increased MCHC and had no effect on growth rate of the diabetic mice compared to normal mice. Ethyl acetate extracts significantly increased WBCs, MCH and MCHC and lowered platelets and had no effect on RBCs, PCV and MCV. Similarly, ethyl acetate extracts had comparable effects to normal control mice on growth rate and body weight. Oral administration of aqueous extract significantly increased AST, CK and lowered ALT, ALP and had no effect on BUN compared to the normal control mice. Oral administration of ethyl acetate extract significantly lowered BUN, AST, ALP, and CK; and had no effect on ALT compared to normal control mice. The study findings suggest that *L. cornuta* ethyl acetate extract is efficacious and safe in the management of diabetes.