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Effect of an isolated compound (CT-I) of *Cinnamomum tamala* leaf on different biochemical parameters in STZ induced diabetic rats

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Abstract

Objectives: The objective of present study was to evaluate the effect of active principle (CT-1) from *Cinnamomum tamala leaf* on serum glucose and lipid profile in normal and diabetic rats.

Materials and Methods: Diabetes was induced by streptozotocin in adult rats. Oral administration of ethanolic extract of c.tamala (200 mg/kg, p.o.) for 40 days caused a significant decrease in blood glucose level in diabetic rats. Glibenclamide was used as standard antidiabetic drug (5 mg/kg, p.o). Ethanol extract of *c.tamala* was subjected to column chromatography that led to isolation of an active principle, which was given trivial name CT-I. CT-I (50 mg/kg, p.o.) was studied for its hypoglycemic and hypolipidemic potential. The unpaired *t*-test and analysis of variance (ANOVA) followed by post hoc test was used for statistical analysis.

Results: CA-I caused a significant reduction in FBG level. It also caused reduction in cholesterol, triglycerides, and LDL levels and improvement in the atherogenic index and HDL level in diabetic rats.

Conclusion: Improvement in the FBG and the atherogenic index by CA-1 indicates that CA-1 has cardioprotective potential along with antidiabetic activity and provides a scientific rationale for the use as an antidiabetic agent.

Significant finding of the study: CA-I significantly decreases the fasting blood glucose level and also causes significant reduction in cholesterol. LDL, and triglyceride level. Thus having antidiabetic property as well as may be use as cardioprotective.

Keywords: Blood glucose, *Cinnamomum tamala*, Diabetes, Lipid profile, Streptozotocin