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Effect of Bauhinia variegata: A phytomedicine in type I diabetic rats

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Bauhinia variegata leaves have been reported for presence of flavonoids like quercetin, rutin, kaempferol. It is scientifically proved that flavonoids have significant effects on blood glucose level. Considering these facts, present study was designed to evaluate antidiabetic activity of aqueous extract of *Bauhinia variegata* leaves (AE) in experimental animals.

Diabetes was induced in male Sprague Dawely rats by intraperitonial injection of streptozotocin (55 mg/kg). Diabetic animals were orally treated with AE at dose of 250, 500 and 1000 mg/kg for 28 days. Glipizide (5 mg/kg) was used as standard and orally administered to diabetic animals in separate group. Animals in diabetic control group received vehicle i.e. normal water. Plasma glucose and body weight of animals were measured weekly. Other biochemical parameters like cholesterol, triglycerides, blood urea nitrogen and creatinine were estimated at end of study. On 28th day, oral glucose tolerance test (OGTT) was also performed and pancreatic tissues were evaluated for histopathological changes. Administration of AE at dose of 500 and 1000 mg/kg lowered the plasma glucose level significantly to 337.3 ± 14.26 mg/dl (p<0.01) and 309.6 ± 15.82 mg/dl (p<0.001), respectively, when compared to diabetic rats (422.5 ± 13.44 mg/dl). There was significant decrease in elevated plasma cholesterol (TC) and triglyceride level (TG) after treatment with AE. AE treatment significantly decreased glucose levels in OGTT. Diabetic control group showed severe degenerative and necrotic changes in pancreatic tissues. Administration of AE for 28 days showed decrease in degenerative changes in pancreas.

Study showed that, aqueous extract of leaves of *Bauhinia variegata* can effectively decrease the elevated plasma glucose level and can be evolved as a phytomedicine in treatment of type I diabetes.

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