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EVALUATION OF ANTIDIABETIC AND HYPOLIPIDEMIC ACTIVITY OF CEDRUS DEODARA AND EMBELIA RIBES WITH THEIR SYNERGISTIC EFFECTS

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Objectives: Herbal medicines are getting more importance in the treatment of diabetes, cancer and hepatic disorders because of the side effects of the current allopathic therapy. The medicinal plants *Cedrus deodara* and *Embelia ribes* are rich with antidiabetic active constituents like flavonoids, tannins and embelin. Former studies showed that both plants are potential for the treatment of diabetes. The present study was undertaken to study combined synergistic effect of hydro-alcoholic extract of heart wood of *Cedrus deodara* with Seeds of *Embelia ribes* on blood glucose, insulin, and cholesterol and triglyceride level in normal and hyperglycemic rats.

Methods: The antidiabetic and antihyperlipidemic activity of hydro-alcoholic extracts of *Cedrus deodara* with *Embelia ribes* (50: 50) was evaluated by using normal and alloxan-induced-diabetic rats. The acute effect of extract was evaluated by administering 400 mg/kg to normoglycemic rats. In the chronic model, the aqueous extract was administered to normal and alloxan-induced-diabetic rats at dose of 250 and 500 mg/kg per day for 21 days. Blood glucose levels were monitored at specific intervals and different biochemical (LDL, VLDL, HDL, Cholesterols) parameters were also carried out. Histology of pancreas, liver and kidney was also studied.

Results: The statistical data indicated the significant ($P < 0.05$) increase in the serum insulin level and decrease ($P < 0.01$) in the blood glucose, total cholesterol and serum triglycerides. HDL cholesterol level was significantly ($P < 0.05$) increased when treated with the extract. Histology of diabetic rats treated combined extract with showed the pancreatic β -cells regeneration.

Conclusions: The combined hydro-alcoholic extract showed beneficial effects in reducing the elevated blood glucose level and lipid profile of alloxan-induced-diabetic rats. They also showed favorable effect to inhibit the histopathological changes of the pancreas and kidney in alloxan induced

diabetes.