

Original Paper

Effect of *Salvia officinalis* L. on serum level of glucose, lipid profiles and tissue level of Malondialdehyde in diabetic rats

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Abstract

Background and Objective: Hyperlipidemia and dyslipidemia are the prevalent risk factors associated with diabetes and their attenuation in diabetic patients with medicinal plants has great significance. This study was done to evaluate the effect of *Salvia officinalis* (SO) administration on serum glucose, lipids and tissue level of malondialdehyde (MDA) in streptozotocin induced diabetic rats.

Methods: In this experimental study, 32 adult male Wistar rats were allocated into four groups including: control, SO-treated control, diabetic, and SO-treated diabetic groups. For induction of diabetes, a single dose of streptozotocin (60 mg/kg, i.p.) was used. SO powder was mixed with standard rat chow. Serum glucose and triglyceride, total cholesterol, LDL and HDL levels were determined on the first day and at 3rd and 6th weeks after the intervention. Finally, liver level of MDA and protein were determined in liver homogenate.

Results: At 6th week, serum glucose level was significantly higher in diabetic and SO-treated diabetic groups ($P < 0.001$) in compare to controls. Oral consumption of SO did not significantly reduce serum glucose level. Serum triglyceride level significantly reduced in SO-treated diabetic group in compare to diabetic group ($P < 0.05$). There was not significant difference between SO-treated diabetic and diabetic groups. Serum level of cholesterol, HDL, LDL and tissue MDA level in SO-treated diabetic group in compare to diabetic group.

Conclusion: Chronic administration of *Salvia officinalis* reduces serum triglyceride level in diabetic rats, with no significant effect on glucose level and Malondialdehyde.

Keywords: Diabetes mellitus, *Salvia officinalis*, Glucose, Cholesterol, HDL, LDL, Malondialdehyde

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