Hypoglycemic and hypolipidemic effect of chronic oral administration of aerial part of Marrubium vulgare in diabetic Rats

Abstract
Background&Objective: Marrubium vulgare has preventing and antioxidant components. There are some evidence of hypoglycemic and hypolepidemic of this medicinal herb. This study was done to determine the hypoglycemic and the hypolipidemic activities of Marrubium vulgare in diabetic Rats.

Materials&Methods: In this experimental study, 40 male Wistar rats were divided into control, treated control, diabetic, and treated diabetic groups. For induction of diabetes, streptozotocin (STZ; 60 mg/Kg; i.p.) was used at a single dose. The treatment groups received oral administration of plant-mixed pelleted food (6.25%) for two months. Serum glucose, triglyceride and cholesterol concentrations were measured by spectrophotometry technique.

Results: Serum glucose level in diabetic group increases 4 and 8 weeks after the experiment as compared to data one week before the study began (P<0.05). Marrubium vulgare treatment of diabetic rats did not any significant effect. In addition, triglyceride level in diabetic group increased 8 weeks after the experiment in comparison with related data one week before the study (P<0.05) and there was a significant lower level of triglyceride in Marrubium vulgare-treated diabetic rats (p<0.05). Furthermore, a similar significant reduction was obtained for treated-diabetic group as compared to diabetic group regarding serum cholesterol level (p<0.05).

Conclusion: This study showed that oral administration of Marrubium vulgare in long-term could significantly reduce serum triglyceride and cholesterol levels without any effect on serum glucose in diabetic rats.

Key Words: Marrubium vulgare- Hypoglycemic-cholesterol - Hypolipidemic- Diabetes mellitus- Streptozotocin- Rat