

Original Paper

Effect of aqueous extract of *turnip root* on glucose and lipid profile in Alloxan induced diabetic Rats

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Abstract

Background and Objective: Diabetes mellitus is a metabolic disorder which characterized with disorder in carbohydrate and lipid metabolism. This study was conducted to evaluate the effect of aqueous extract of turnip root (*Brassica rapa*) on glucose and lipid Profile in alloxan-induced diabetic rats.

Methods: In this experimental study 40 male wistar rats randomly allocated into 5 equal groups including diabetic control, Metformine 50mg/kg, 200mg/kg and 400 mg/kg/bw of *aqueus* extract of *turnip root* and normal control groups. Alloxan monohydrate 150 mg/kg/bw was used to induce diabetes mellitus and two weeks after Alloxan injection rats with fasting blood sugar (FBS) more than 350mg/dl considered as diabetic rats. All administrations were done orally and daily in a same volume for 28 consecutive days. The FBS concentrations were determined on the first, 14th and 29th days. On 29th day, blood was collected from overnight fasted rats. Plasma concentrations of total cholesterol (TC), triglyceride (TG), high density lipoprotein cholesterol (HDL-c), low density lipoprotein cholesterol (LDL-c), aspartate amino transferase (AST) and alanine amino transferase (ALT) activities were measured.

Results: The statistical data indicated ($P < 0.05$) in the levels of FBS (4.5 times), TC, TG, AST and ALT (about 2.5 times) and LDL-c (2 times) significantly increased in diabetic rats compare to healthy normal control group. Administration of 200mg/kg and 400 mg/kg/bw of turnip root extract did not exhibit hypoglycemic activity. *Turnip root* extract significantly inhibited the increasing of TC, TG, LDL-c and ALT in diabetic rats ($P < 0.05$), but had no effect on AST sera level.

Conclusion: Although, the *aqueous* extract of turnip root had not any hypoglycemic activity but it was effective in reduction of TC, TG, LDL-c and ALT in diabetic rats.

Keywords: Diabetes mellitus, Alloxan, *turnip root*, Glucose, Cholesterol, Triglyceride, Rat

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