

Original Paper

Effect of *Echinophora-platyloba* extract on the pituitary-thyroid axis and lipid profile in hypercholesterolemic rats

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Abstract

Background and Objective: Hyperlipidemia can be considered as one of the main risk factor, involved in cardiovascular disease and it is a major cause of death. This study was done to determine the effect of air part of *Echinophora platyloba* extract on Pituitary - thyroid axis hormones and lipid profile in hypercholesterolemic rats.

Methods: In this experimental study, 40 male Wistar rats were randomly allocated into 5 groups (n=8) including control group with normal diet, hypercholesterolemic group along with high cholesterol diet, and the three treatment groups with hypercholesterolemia which animals were received daily doses of 100, 200 and 300 mg/kg/bw of the hydroalcoholic extract of *Echinophora platyloba*, respectively by gavage during 42 days. At the end of this period, blood sample was obtained. Lipid profile, including total cholesterol, triglycerides (TG), low-density lipoprotein (LDL), very low-density lipoprotein (VLDL), high density lipoprotein (HDL), triiodothyronine (T3), thyroxine (T4) and thyroid hormone stimulation (TSH) were measured using Radioimmunoassay method.

Results: The level of LDL and cholesterol and TG, significantly reduced in treated group receiving the lowest dose of the extract (100 mg/kg/bw) in compare to hypercholesterolemic group (P<0.05). The level of HDL, TSH and T4 significantly increased in the treated group receiving the highest doses of the extract (300 mg/kg/bw) in compare to hypercholesterolemic group (P<0.05).

Conclusion: *Echinophora platyloba* extract dose dependly can alter Pituitary- thyroid axis hormones and lipid profile in hypercholesterolemic rats.

Keywords: *Echinophora Platyloba*, hypercholesterolemia, Thyroid hormone, Lipid profile, Rat

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