

Antihyperlipidemic effects of ginger extracts in alloxan-induced diabetes and propylthiouracil-induced hypothyroidism in (rats)

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ABSTRACT

Background Diabetic mellitus and hypothyroidism lead to serum lipoproteins disorders. This study aims to investigate the potential effect of fresh ginger extracts *Zingiber officinale* roscoe (Family: Zingiberaceae) on serum lipid profile and on blood glucose in alloxan-induced diabetes and propylthiouracil-induced hypothyroidism in rats. Rats were divided into 11 groups: The normal G1, diabetic control rats G2, ginger 500 mg/kg treated diabetic rats G3, 10 mg/day atorvastatine-treated diabetic rats G4, [5 mg/day atorvastatine combined with 500 mg/kg ginger] treated diabetic rats G5, glibenclamid-treated diabetic rats G6, hypothyroidism control rats G7, 300 mg/kg ginger-treated hypothyroidism rats G8, 500 mg/kg ginger-treated hypothyroidism rats G9, 10 mg/day atorvastatine-treated hypothyroidism rats G10, [atorvastatine combined with 500 mg/kg ginger] treated hypothyroidism rats G11. Thirty days after treatment, samples were collected, to compare treated groups with normal and control groups, using Mann-Whitney U test $P < 0.01$. Results It revealed a decrease in the levels of total cholesterol (TC), and low density lipoprotein (LDL) in the serum of rats that were treated by ginger extracts, compared with the control groups. Previous extracts were also able to cause reduction in LDL to similar levels compared to normal group and that was the same effect of atorvastatin 10 mg/day. Combined effect was clear between the act of ginger at a dose of 500 mg/kg and atorvastatin; that levels of both TC and LDL in animals which received [atorvastatin 5 mg/day combined with ginger extract] was almost equal to levels in animals that received atorvastatin 10mg/day. Clear reduce in triglyceride, and clear increase in high density liopprotein were also recorded in the ginger-treated groups. Ginger was more active in hypothyroidism rats than in diabetic rats in reducing LDL and TC. Glucose levels were substantially reduced in ginger-treated diabetic groups.

KEYWORDS

Alloxan-induced diabetes . Atorvastatin . ginger . glibenclamide . lipoproteins

REFERENCES