

Rat

*

// : // :

Influence of the total extract of hypericum scabrum and calcic and magnestic sulfate mineral water on lipid profile in rat

Habibi B., ^{1,2*}, Nemati M., ^{1,2} Delazar A., ^{1,2} Mesgari M., ² Vatankhah A.M., ² Soltani A. ¹¹Faculty of Pharmacy, Tabriz University of Medical Sciences, ²Drug Applied Research Center, Tabriz University of Medical Sciences

Received: 2006/9/19 , Accepted: 2007/8/9

Objectives: Mineral waters and some extract of plants contain some elements and components such as flavonoids that are therapeutic. In this study the effect of the total extract of *Hypericum Scabrum* and calcic and magnestic sulfate mineral water on lipid profile of in hypercholesterolemic rats were compared. **Methods:** 48 male SD rats (100-150 g) were selected. They were divided to 8 groups of 6 rats and seven groups received cholesterol rich diet and one group received normal diet as control for the first 60 days. Then the diet of rats was changed for the second 60 days.:Group1: normal diet, City water, DMSO (ip),Group2: normal diet, Mineral water, DMSO (ip), Group3: normal diet, City water, Atorvastatin (0.5mg/kg, ip),Group4: hypercholesterolemic diet, City water, normal saline (ip),Group5: hypercholesterolemic diet, City water, DMSO (ip),Group6: hypercholesterolemic diet, Mineral water, DMSO (ip),Group7: normal diet, City water, Scabrum(4mg/kg, ip), Group8: normal diet, City water, Scabrum(12mg/kg, ip) and again at the end of the second period the blood sample was taken from rats' eyes. **Results:** the results of tests showed that the difference in lipid profile were significant for all groups in comparison with high cholesterol control group (P<0.001.) the difference in serum magnesium level by Mineral water was not significant in comparison with other groups (P>0.05). **Conclusions:** According to the results of this study it seems that the study about hypocholesterolemic effects of *Hypericum Scabrum* and mineral water in human kind may be useful.

Key words: Hyperlipidemia, *Hypericum Scabrum*, Mineral water, Atorvastatine.

SD

Lipid profile

Lipid profile

*Corresponding Author: Bohlool Habibi Asl, Faculty of Pharmacy, Tabriz University of Medical Sciences, Tel: 0411-3372250; Fax: 0411-3344798; E-mail: habibib@tbzmed.ac.ir

(4,12mg/kg, ip)
(/ mg/kg, ip)

:

DMSO

:

DMSO

:

Rat LDL HDL

()

(/ mg/kg)

:

DMSO

:

)

Lipid profile

(

.DMSO

:

DMSO

:

Rat (4,12mg/kg, ip)

Lipid profile

(4mg/kg)

DMSO

:

(12mg/kg)

Rat LDL HDL

()

DMSO

:

HDL

LDL

:

(Mean ± SE)

Rat

(

)

()

tukey

Anova

(DMSO)

P<0.05

()

)

DMSO

:

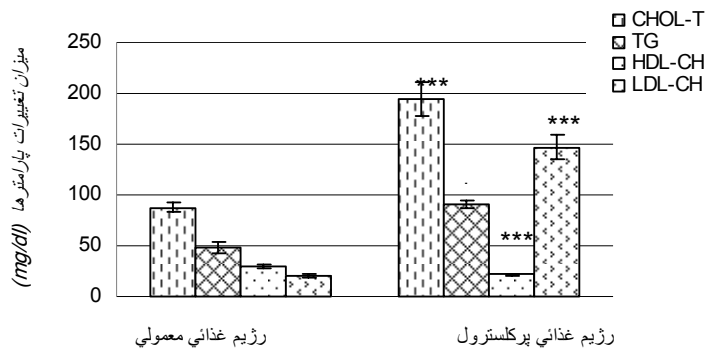
Rat LDL HDL

()

DMSO

Lipid profile

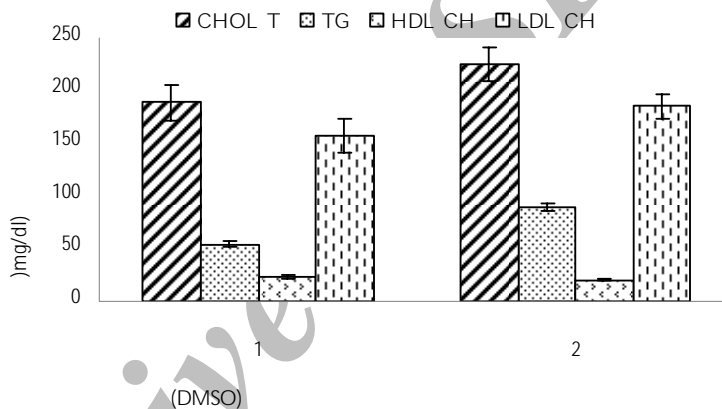
(P<0.001)



Mean ± SE

.LDL HDL

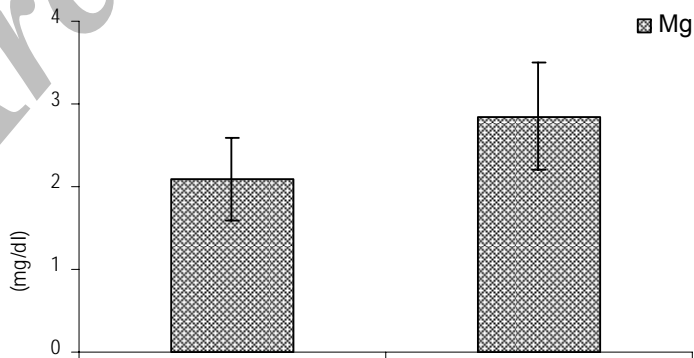
*** P<0.001



Mean ± SE

.LDL HDL

DMSO :



Mean ± SE

.(Mg)

(Mineral water)

/	/	pH
/	/	(mg/l)
		CO ₂ (mg/l)
		(mg/l)
		(mg/l)
		(mg/l)
		(ppm)
		(ppm)
		(mg/l)
		(mg/l)
		(/cm)

.Rat	(0.5mg/kg, ip)	(4,12mg/kg ip)		
	Mean ± SE			
	Cholesterol-Total	Triglyceride	HDL-CH	LDL-CH
Control	189 ±16.89	54.34 ± 2.75	21.5 ± 1.67	157.4 ±16.57
Atorvastatine (0.5mg/kg, ip)	81.25 ± 5.45	47.25 ± 5.54	28.5 ± 1.65	43.9 ± 6.84
Mineral water	80.00 ± 2.27	46.14 ± 3.20	26 ± 1.99	51.8 ± 4.87
Scabrum (4mg/kg, ip)	77.40 ± 4.85	44.17 ± 2.69	28.5 ± 1.78	47 ± 7.22
Scabrum (12mg/kg, ip)	71.20 ± 5.44	42.50 ± 2.90	27.5 ± 1.16	34.3 ± 6.67

DMSO p<0.05 p<0.001

Lipid profile
()

()

Lipid profile ()

(Rat)

:

(...

()

:A () (CCK) ()

() Lipid profile (P<0.001)

()

(0.5 mg/kg, ip) ()

: B () () ()

() (4,12mg/kg, ip) ()

(P<0.001)

:C () ()

LDL ()

Lipid profile

6- References:

1. Toussaint C., Peuchant E., Courtes C., Jensen R., Canellas J, Role of sulfated calcic, Magnesium Mineral water in cholesterol elimination in Rat. Int J Biochim, 1988, 96: 89-100.
2. Cantalamessa F., Nasuti C., Hypocholesterolemic activity of calcic and magnesiic-sulphate sulphurous spring mineral water in the rat, Nutrition Research, 2003, 23: 775-789.
3. Toussaint C., Ngugen B.A., Cang R., Jensen R., Canellas J., Influence of sulfated, Calcic, Magnesium Mineral Water in lipoprotein Metabolism in Rat. Int J Biochim, 1986, 94: 65-76.
4. Zou Y., Lu Y., Wei D., Hypocholesterolemic effects of a flavonoid-rich extract of *Hypericum perforatum L.* in rats fed a cholesterol-rich diet. J Agric Food Chem, 2005, 6: 2462-6
5. Abbot R.D, Ando F, Masaki K.H, Rung K.H, Rodriguez B.L, Petrovitch H, Yano K and Curb J.D, Dietary magnesium intake and the future risk of
6. coronary heart disease (the Honolulu Heart Program). American J Cardiology, 2003, 92: 665-669.
7. "*Hypericum perforatum*" ;
8. ;
9. Jonsson E., et al, Circulating levels of cholecystokinin and gastrin-releasing peptide in rainbow trout fed different diets. Gen Comp Endocrinol, 2006, 148(2): 187-94.
10. Sufian M., et al, Pork peptone stimulates cholecystokinin secretion from enteroendocrine cells and suppresses appetite in rats. Biosci Biotechnol Biochem, 2006, 70(8): 1869-74
11. " ; "
12. Persell S.D., Cholesterol lowering with atorvastatine for primary prevention of cardiovascular disease in

-
- diabetic adults, *Journal of Clinical Outcome Medicin*, 2004, 11: 658- 682.
13. Persell S.D., Statins and diabetic hyperlipidemia, *Ann Endocrinol (Paris)*, 2001, 62: 128-32
14. Capurso A., Solfrizzi V., Panza F., Mastro anni F., Torres F., Del Parigi A., Colacicco A.M., Capurso C., Nicoletti G., Veneziani B., Cellamare S., Scalabrino A. Increased bile acid excretion and reduction of serum cholesterol after crenotherapy with salt-rich mineral water, *Aging Clin Exp Res*, 1999, 11: 273-6.
15. Kizil G., Toker Z., Ozen H.C., Aytecin C., The antimicrobial activity of essential oils of *Hypericum scabrum*, *Hypericum scabroides* and *Hypericum triquetrifolium*, *Phytother Res*, 2004, 18(4): 339-41.
16. Tanaka N., Takaishi Y., Shikishima Y., Nakanishi Y., Bastow K., Lee K.H., Honda G., Ito M, Takeda Y., Kodzhimatov OK, Ashurmetov O, Prenylated benzophenones and xanthenes from *Hypericum scabrum*, *J Nat Prod*, 2004, 67(11): 1870-5.

Archive of SID