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Comparison of the therapeutic effects of total extract of *Hypericum perforatum* and calcic and magnesian sulfate mineral water on lipid profile of Hyperlipidemic rats

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Objectives: Nowadays, nondrug treatments (mineral waters and plants) are novel therapeutic approaches for hyperlipidemia. The aim of the present study was the evaluation of the effects of calcic and magnesian sulfate mineral water and total extract of *Hypericum perforatum* on the serum lipid profile (T-CH, TG, HDL-CH, LDL-CH) in hypercholesterolemic rats. **Methods:** Thirty male rats (SD) weighing 100-150g were randomly divided into 5 experimental groups. The rats in control group were fed a standard diet and the other groups were fed a cholesterol-rich diet for 60 days. Then, hypercholesterolemia was observed through analyzing the blood samples ($P < 0.001$). In the second phase (therapeutic phase), control group (group1) was continued with standard laboratory diet, and hyperlipidemic rats were treated with total extract of *Hypericum perforatum*, tap water or mineral water for the next 60 days, as the following: group2: cholesterol-rich diet and tap water, group3: cholesterol-rich diet, tap water, total extract of *Hypericum perforatum* (4mg/kg, ip), group4: cholesterol-rich diet, tap water and total extract of *Hypericum perforatum* (12mg/kg, ip), group5: cholesterol-rich diet and mineral water. All groups received saline normal and DMSO as a solvent for extract through intra peritoneal (ip) injection. At the end of the period, blood samples of each group were drawn from vena cava and analyzed for the lipid levels of plasma. **Results:** The results indicated that treatment by mineral water or total extract of *Hypericum perforatum* at the doses of 4 and 12mg/kg could reduce the levels of T-CH, TG, LDL-CH significantly ($P < 0.001$). Total extract of *Hypericum perforatum* (4mg/kg, ip) and mineral water administration alter a statistically significant difference to the level of TG ($P < 0.001$), but could not reduce T-CH, LDL-CH levels. **Conclusion:** Calcic and Magnesian Sulfate mineral water and total extract of *Hypericum perforatum* could reduce lipid profile especially TG. More studies are recommended. **KEY WORDS:** *Hypericum perforatum*, Total extract, Hyperlipidemia, Rat.

| Group | T-CH (mg/dl) | TG (mg/dl) | LDL-CH (mg/dl) |
|------------------------|----------------------|------------------------|----------------------|
| Control (SD) | 120.0 ± 10.0 | 150.0 ± 15.0 | 100.0 ± 10.0 |
| Group 2 (4 mg/kg, ip) | 80.0 ± 5.0 (P<0.001) | 100.0 ± 10.0 (P<0.001) | 70.0 ± 5.0 (P<0.001) |
| Group 3 (12 mg/kg, ip) | 85.0 ± 5.0 (P<0.001) | 105.0 ± 10.0 (P<0.001) | 75.0 ± 5.0 (P<0.001) |
| Group 4 (4 mg/kg, ip) | 82.0 ± 5.0 (P<0.001) | 102.0 ± 10.0 (P<0.001) | 72.0 ± 5.0 (P<0.001) |
| Group 5 (12 mg/kg, ip) | 88.0 ± 5.0 (P<0.001) | 108.0 ± 10.0 (P<0.001) | 78.0 ± 5.0 (P<0.001) |

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(DMSO)

DMSO

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.()

(LDL-CH)

) SD

.()

100-150

(

.()

invivo

LDL

.() .

(Hypericum perforatum L.

.()

.()

.()

(P<0.001)

()

DMSO (ip)

(4mg/kg , ip)

(12 mg/kg ,ip)

DMSO (ip)

70

DMSO (ip)

(mg/kg , ip)

()

()

(4mg/kg, ip)

(LDL-CH TG)

(P<0.05)

(Abbot, Alcyon300, USA)

(mg/kg , ip)

Mean ± SEM

ANOVA

Tukey

p< /

()

(mg/kg , ip)

(P<0.001)

(LDL-CH ,LDL-CH TG)

TG, T-CH)

(LDL-CH HDL-CH

)

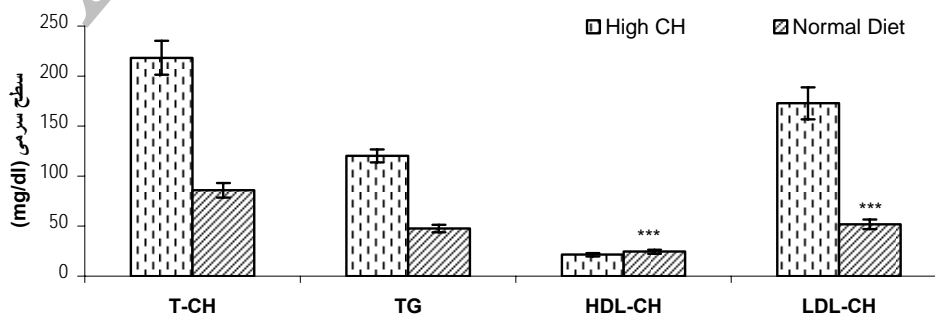
()

(P<0.001)

(TG)

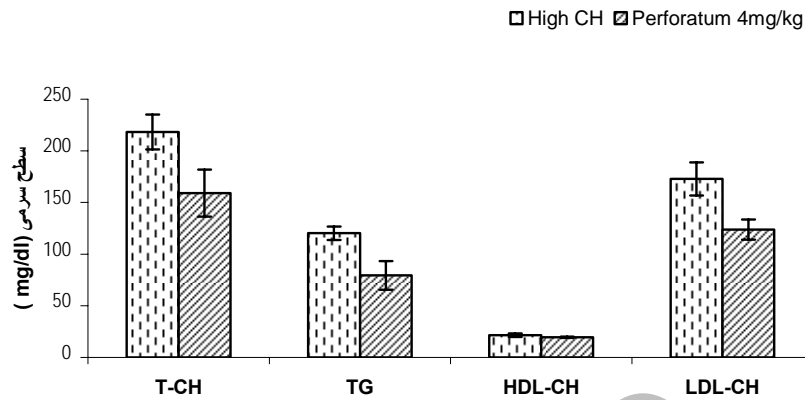
(LDL-CH TG, T-CH)

(P<0.001)

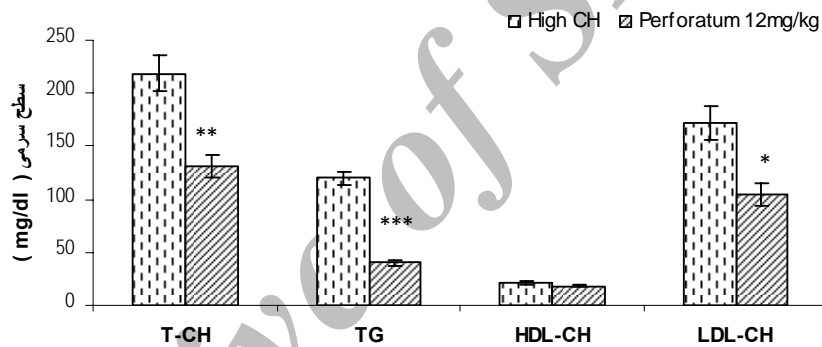


*** (P<0.001)

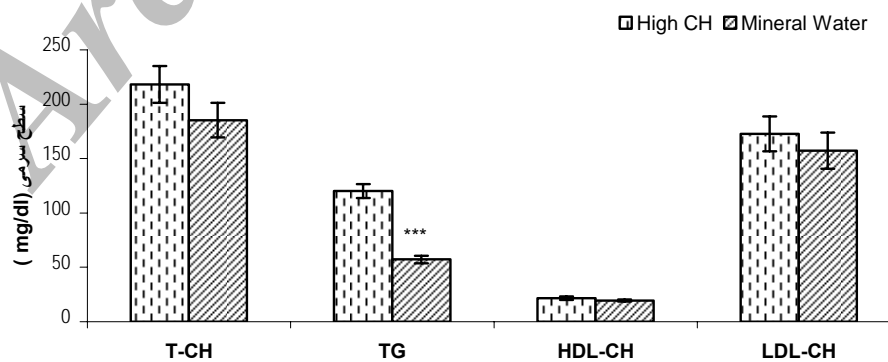
Mean ± SE



*(P<0.05). Mean ± SE (4 mg/kg, ip)



*** (P<0.001) ** (P<0.01) * (P<0.05). Mean ± SE (12 mg/kg, ip)



*** (P<0.001). Mean ± SE (LDL-CH HDL-CH TG, T-CH)

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