Efficacy of Hypolipidymic and Hypocholesterolemic Effect of Galega Officinalis I Plant Extract.

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ABSTRACT

Efficacy of hypolipidymic and hypocholesterolemic effect of galega officinalis i plant extract. This article discusses the structure of the galega plant.

Keywords: herbal medicines, hypocholesterolemic, hyperlipidemia, treatment, phytodiabetol, diabetes.

The relevance of the topic. Nowadays several studies are underway on the efficacy of hypoglycemic and hypolipidymic effect of Galega officinalis I plant extract. However, the hypolipidymic and hypocholesterolemic effects of the plant are poorly understood. Taking that into account, for the first time the hypolipidymic and hypocholesterolemic properties of this plant in different models of diabetes were studied in comparison with α-lipoic acid.

Medical and social significance of diabetes severe_complications of the disease are explained by increasing of numbers of disabilities and death. Therefore, it is important to study the pharmacological properties of local herbal medicines for the treatment of hyperlipidemia and hypercholesterolemia. Medicinal goat extract reduces glucose concentration glycated hemoglobin total cholesterol increases the amount of oxides in high density lipoproteins. In practice, the comparison of Galega officinalis I plant extract with a-lipoic acid has been studied. The disclosure of the mechanisms of hypoglycemic action is of particular importance in the implementation of pre – hospital research and application in medicine.

The purpose of the research. To study the hypolipidemic effect on animals and to to apply it in medical practice.

The method and material of the research. In our study, 15 healthy female rabbits with a body weight of 2,4 – 3,8 kg were selected to determine the effect of experimental rabbits on serum lipid spectra in the dithizone model of diabetes. The rabbits were divided into 5 groups of three in each. Once a day for 30 days they were injected into the ear vein with dissolved in ammonia water at a dose of 25 mg/kg the effect of phytodiabetol at doses of 6 and 69 mg/kg was studied in the mild form of diathesis diabetes.

The results of the research: It is known that in type 1 diabetes, the process of

lipolysis increases and the amount of triglycerides in the serum increases. In type 2 diabetes, obesity develops. Therefore, subsequent experiments have studied the effect of phytodiabetol on serum lipids in diabetic diabetes. In the background of diabetes mellitus, the amount of total lipids in the serum increased from 9,3 ±0,2 g/l to 17,0 ± 0,6 g/l (82,8%; P‹0,001), triglycerides from 2,15 ± 0,14 mmol/ l to 3,47± 0,21 mmol/ l (61,4%; P‹0,001), cholesterol from 1,30 ± 0,13 mmol/ l to 8,41 ± 0,19 mmol/ l (64,6%; P‹0,00001), β – lipoproteins from 2,32 ± 0,17 g/l to 2,84 ± 0,11g/l (22,4%; P‹0,05) compared to control group (1st table). The amount of cholesterol and triglycerides in the blood were significantly reduced by 44,8 and 47 % and 47,3% and 52,5%, compared to the control group at the doses studied under the influence of phytopreparation, the comparative drug under the influence of α – lipoic acid reduced the amount of cholesterol in the blood by 54,6% respectively, triglycerides were lower than intact. It was also found that β – lipoproteins did not lag behind α – lipoic acid in its effect on reducing the number of lipoproteins in the blood (13,7% and 18,7%).

Effects of the medicinal plant Galega officianalis I on the spectrum of lipids in the serum of experimental rabbits during treatment (n=3, M±m)

Groups	Lipid spectrum indicator		
	Cholesterol, mmol/l	Triglycerides mmol/l	β – lipoproteins g/l
Intact	1,30 ± 0,13 ^^	2,15 ± 0,14 ^^	2,32 ± 0,17 ^^
Diabetes mellitus + distilled water	8,41 ± 0,19 ^	3,47 ± 0,21 ^	2,84 ± 0,11 ^
Diabetes mellitus + α- lipoic acid	3,82 ± 0,33 ^^^	1,64 ± 0,12 ^^^	2,25 ± 0,23 ^^
Diabetes mellitus + Galega oficinalis I 1,6 mg/kg	4,64 ± 0,25^ ^^	1,83 ± 0,15 ^^^	2,45 ± 0,22 ^^
Diabetes mellitus + Galega oficinalis I 1,60 mg/kg	4,45 ± 0,12 ^^^	1,65 ± 0,21 ^^	2,31 ± 0,05 ^^

Comment: ^Level of reliability of the results obtained in intact animals (R‹0,05)

^^Level of reliability in relation to the results obtained from control animals (R‹0,05)

When treated with the medicinal plant Galega officinalis I, the total lipid content increased by 40% (10,2 ± 0,5 g/l; R‹0,01) 42,3% (9,8±0,4 g/l; R‹0,01) compared to the control group at doses 6 and 60 mg/kg decreased significantly and did not differ from the intact indicators. Under the influence of comparative hypolipidemik drug (α- lipoic acid) its content decreased by 45,3% (9,3 ± 0,7 g/l; R‹0,01).

Conclusion: In our study, the dithizone model of diabetes was characterized by a reliable increase in total lipid levels by 17,0 ± 0,6 g/l; (R‹0,001) times, triglycerides 1,61 times, cholesterol 6,47 times and β-lipoproteins 1,22 times. The medicinal plant Galega officinalis I has hypolipidemic, hypotriglycemic and hypocholesterolemic properties.

But the hypocholesterolemik activity of the medicinal plant Galega officinalis I was several times lower than the activity of α-lipoic acid. It is clear that the medicinal plant Galega officinalis I has a positive effect on the secretion of insulin from pancreas, improves the metabolism of fats in the tissues. Based on the above, it can be concluded that the medicinal plant galega officinalis i can be recommended in the prevention and treatment of disorders of fat metabolism in type 2 diabetes.

The results show that the medicinal plant Galega officinalis I can be recommended for the treatment of hyperglycemia in type 2

diabetes, as well as for the correction of hypelipidemia and hypercholesterolemia.

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