

CHANGE OF TRIGLYCERIDE LEVELS IN RATS WITH HYPOTHYROIDISM WHEN USING EXTRACT OF LAMINARIA

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One of the most promising ways to improve the treatment of major diseases of the thyroid gland (TG) – hypo- and hyperthyroidism – is using of herbal medications, which pharmacodynamic properties contribute to the increasing effect of basic medicines that address them a for manifestations of these pathologies and improve the safety of their use during long courses.

Well-known is that the lack of thyroid hormone leads to the decreasing of basal metabolism. Hypothyroidism is usually accompanied by lipid metabolism disorders, which include increasing of total cholesterol, very low density lipoproteins, low density lipoproteins and triglycerides.

The purpose of our study was to investigate the mechanisms of the effect of the aqueous extract of Laminaria on lipid metabolism in animals with hypothyroidism.

Experimental hypothyroidism was reproduced by administering of Merkazolilum in a dose of 5 mg/100 g body weight during 30 days. The aqueous extract of Laminaria saccharina was administered intragastrically at a dose of 1 ml/100 g body weight. The reference drug Iodomarin was used in a dose of 1.2 mg/100 g body weight in a similar mode. The degree of development of hypothyroidism was determined by measuring of thyroid hormones - thyroxine and triiodothyronine blood levels and by the data of morphometric evaluation of the TG functional state. Triglycerides were determined by the classical method.

In experimental hypothyroidism decreasing of thyroid hormones thyroxine and triiodothyronine, and increasing of triglycerides (2 times) serum levels were observed compared to control animals. Morphological structure of TG was typical for hypofunction. With the introduction of the aqueous extract of Laminaria there was a significant decrease in the concentration of triglycerides compared to the levels in rats with hypothyroidism. Iodomarin had less pronounced similar effect. The positive dynamics of morphological and functional changes of TG is observed.

Laminaria extract, which is being studied as a potential drug for the prevention and treatment of diseases associated with hypofunction of TG, showed a normalizing effect on the level of triglycerides in the blood of rats with hypothyroidism.