Table

Characteristics of changes of pro- and antioxidant systems
in the renal tissue of rats with experimental hyperthyroidism (X±Sx)

Indices	Group, number of animals	
	Control, n=10	Hyperthyroidism, n=18
Malondialdehyde, μmol/1 mg of tissue	83,71±0,76	167,92±2,20; p<0,001
Diene conjugates, nmol/1 mg of protein	1,18±0,03	1,41±0,12; p>0,1
Superoxide dismutase activity, un./1 min./1 mg of protein	0,28±0,01	0,15±0,02; p<0,001
Catalase activity, μmol/1 min./1 mg of tissue	94,80±0,89	145,91±4,26; p<0,001
Glutathione S-transferase activity, μmol/1 min./1 mg of tissue	14,30±0,53	16,40±0,49; p<0,02
Glutathione peroxidase activity, μmol/1 min./1 mg of protein	87,31±1,08	62,04±2,31; p<0,001
Level of SH-groups, mmol/1 mg of tissue	0,029±0,001	0,028±0,002; p>0,7
Neutral dinitrophenylhydrazones, mmol/1 g of protein, 370 nm	1,03±0,06	1,86±0,10; p<0,001
Basic dinitrophenylhydrazones, un.o.d./1 g of protein, 430 nm	9,14±0,49	16,09±0,98; p<0,001

Note: P statistically significant difference in comparison with control group; n number of experimental animals.

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TREATMENT OF SYMPTOMS OF METABOLIC SYNDROME

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Metabolic syndrome is a problem of modern society. It is characterized by abdominal obesity, insulin resistance, type 2 diabetes, dyslipidemia and hypertension. Revealing metabolic syndrome has significant clinical implications, as this condition is reversible, since the appropriate treatment can result in disappearance or reduction of the severity of its main manifestations.

The objective of the research was to study the efficacy of *Stifimol* and *Metformin* in patients with metabolic syndrome.

The given study involved 30 patients with symptoms of metabolic syndrome (14 men and 16 women) aged from 30 to 65 years. We determined the BMI, waist and hip circumference, biochemical analysis of blood, levels of insulin, C-peptide and HOMA index. All the patients were divided into 2 groups: Group 1 included15 patients who were taking *Stifimol* 1 capsule 3 times a day, patients of the second group were given *Stifimol* 1 capsule 3 times daily and *Metformin* 500 mg 1 tablet at lunch.

Stifimol. Pharmacological properties. The main component of the drug is the extract of *Garcinia Cambodia*. The main component of this extract is hydroxycitric acid, which inhibits lithogenesis reducing the formation of cholesterol and fatty acids, increases the production of glycogen in the liver, reduces appetite, increases heat production by the body through the activation of thermogenesis.

Chromium picolinate regulates glucose uptake by cells of the body and helps to maintain normal physiological glucose level in the blood. It regulates carbohydrate, lipid, particularly cholesterol metabolism in the body.

A unique feature of L-carnitine is that it increases the permeability of the membranes to fatty acids. L-carnitine improves lipid utilization and energy with the aim of slowing the rate of synthesis of fat molecules in the subcutaneous fat depot. After administration of L-carnitinea steady loss of adipose tissue is initiated, the efficiency of fat oxidation in the body increases significantly, the production of free radicals decreases while the content of ATP increases.

L-tyrosine improves the exchange of catecholamines. One of the major target tissues of catecholamines in the body is adipose tissue. Tyrosine reduces appetite, promotes production of melatonin, and improves the function of the thyroid and adrenal glands. Tyrosine is involved in the regulation of emotional state, helps relieve anxiety and overcome depression.

Brown algae extract, due to the presence of iodine in its content, improves the functioning of the thyroid gland, activates metabolic processes, promotes the breakdown of lipids in the adipose tissue.

The therapy of patients showed a positive tendency, the overall health of patients was noted to improve, the frequency of demonstrating bad eating habits decreased, the clinical and biochemical status become normalized. There were significant (p<0,05) lipidogram improvements of glycemic blood parameters. Patients receiving *Stifimol* and *Metformin* presented much better after the therapy and in the second group, insulin levels decline was noted in 53,3%, and in case of the treatment by *Stifimol* only the decline was 26,6%. The level of leptin decreased in 46,6% of patients in the second group and in 13,3% in the first group. The use of *Stifimol* and *Metformin* made it possible to eliminate insulin resistance in 33,3% for a month. Throughout the therapy one could also note decrease in anthropometric parameters while the indicators were more pronounced with the combined use of *Metformin* and *Stifimol*.

The use of *Stifimol* and *Metformin* in the treatment of patients with the signs of metabolic syndrome leads to the improvement of the overall condition of patients, positive changes in anthropometric, clinical and biochemical parameters. The scheme of combined use of *Metformin* and *Stifimol* demonstrated (p<0,05) more positive dynamics in patients with metabolic syndrome.