RESEARCH ON THERAPEUTIC EFFECTS OF SIBUTRAMINE ON HUMORAL FACTORS OF OBESITY UNDER CONDITIONS OF EXPERIMENTAL METABOLIC SYNDROME.

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Metabolic syndrome (MS) is a multisystem complex of metabolic and hormonal disorders developing under obesity. An imbalance of humoral regulators of appetite plays an important role in the obesity development: leptin (anorexigenic hormone of adipose tissue) and the orexigenic mediators group of ghrelin and anandamid. Disorders of secretion and reduce sensitivity to their actions lead to excessive eating. For expedient of MS correction is the use of pharmacological agents that restore the balance between humoral feeding behavior regulators and normalize appetite.

The aim of this work was the study of indicators dynamics of appetite humoral regulation under the sibutramine influence (anorectic drugs) in experimental MS. Pathology in rats was modeled by the dexamethasone introduction at a low doses and the keeping of animals on hypercaloric diet during 5 weeks.

Against the background of the metabolic syndrome there was a significant increase of leptin content at 1.09 times compared to intact, which confirms the widening of adipose tissue producing excessive amounts of leptin. Hyperleptinemia did not exert anorexigenic effects, probably due to the lowest throughput of blood-brain barrier (BBB) for this hormone. However, the ghrelin and anandamid levels were significantly increased in 1.11 and 1.30 times respectively, which was accompanied by abnormal increased appetite and, as a result, overeating.

The introduction of the investigational drug was accompanied by a significant decrease in the ghrelin level in the blood on 1.07 times, and anandamid in the hypothalamus in 1.33 times, which indicated the hunger feelings suppression. The blood concentration of leptin was significantly increased in 1.11 times, which was manifested by a severity increase of anorexigen sibutramine action.

According to the literature sibutramine normalizes the indices of lipid metabolism in the blood, suppresses the synthesis of proinflammatory cytokines and stimulates the production of adiponectin, which eliminates the metabolism disorders. Such mechanism makes it possible to assume that anorexigenic effect is achieved by a throughput increasing of the BBB for leptin under the lipotoxicity correction background of fatty tissue metabolites.