

**INFLUENCE OF EXTRACT FROM THE STEVIA LEAVES  
ON INDICES OF LIPID PEROXYDATION  
UNDER EXPERIMENTAL DIABETES MELLITUS TYPE II IN RATS**

Ponomareva D., Pridatko O., Chumak E.

Scientific supervisor: Bashura M.

National University of Pharmacy, Kharkiv, Ukraine

1108chumak@gmail.com

**Introduction.** It is proved that diabetes mellitus is a heterogeneous multifactor disease. The concept of diabetes mellitus type II development is based on the presence of two fundamental defects - insulin resistance and dysfunction of  $\beta$ -cells of pancreas, at that both factors aggravating each other. An important role in pathogenesis of diabetes mellitus also belongs to activation of processes of free radical oxidation (FRO), in particular pro-oxidant and antioxidant imbalance that leads to an excess of free radicals and accumulation of highly toxic products. FRO is an integral part of many vital processes occurring in the body at all the levels. Excessive amounts of oxygen free radicals is released by activated macrophages and damaged  $\beta$  -cells, the last are extremely sensitive to the toxic effect of free radicals. Thus, the process of lipid peroxidation is most represented in cells of Langerhans islets. Considering the important role of oxidative stress in the development of diabetes mellitus, it is reasonable to search the drugs with high antioxidant activity. The group of such compounds includes the substances of flavonoid row, which are very prospective.

**Aim.** Purpose of the given work was to study the impact of dry extract from the stevia leaves on metabolic disorders development in rats under experimental insulin resistance induced by high-fructose diet.

**Materials and methods.** Indices of lipid peroxidation was determined by the content of diene conjugates (DK) and TBK-reactive products (TBK-RAP) by the reaction with thiobarbituric acid using spectrophotometric method, antioxidant system condition was evaluated by determining the concentration of reduced glutathione (GSH) - using spectrophotometer method on the reaction with alloxan.

**Results and discussion.** As seen from the results, retention of rats on high-fructose diet has led to an increase in the content of TBK-AP and DK (primary products of lipid peroxidation) in the liver of animals, which correlates with the decrease of GSH content, indicating the activation of lipid peroxidation and exhaustion of antioxidant protection means.

**Conclusion.** Administration of dry stevia leaves extracts in our experiment conditions caused normalization of indicators of antioxidant status of organism of investigated laboratory animals that probably could be explained by antiradical properties of polyphenols of stevia leaves extracts.