MORPHOLOGICAL CHANGES IN THE PANCREAS AT ALLOXAN-INDUCED DIABETES IN RATS

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Diabetes is one of the most common diseases of humans and animalsю At date, this disease becomes endemic and ranks third place after cardiovascular diseases and malignant disease. In animals diabetes is the result of many reasons that include the violate insulin production, transportation or insulin sensitivity. In recent years in veterinary practice is common diabetes in dogs and cats. Currently etiology, pathogenesis of diabetes in animals is poorly understood, and methods of effective treatment of this disease are absent.

In recent years conducted an intensive search for a radical solution of problems of therapy of I type diabetes. It is assumed that for patients with diabetes cell therapy, based on the replacement of β-cells, could be the ideal way of treatment.

The aim of this study is to investigate the morphological changes in rat pancreas with an experimental alloxan-induced diabetes.

Model of an alloxan-induced diabetes is characterized by structural changes in the endocrine part of the pancreas (β-cells necrosis), at the same time the structure of exocrine part kept unchanged.

Development of an alloxan-induced diabetes accompanied by pathological changes in pancreas which are characteristic for pancreatitis (lymphocytic infiltration, proliferation of dense connective tissue around the duct), while the degree of manifestation of which depends on the severity of diabetes.

In the pathogenesis of experimental diabetes leading role belongs to alloxan action on β-cell which consists in oxidation of SH-groups, glucokinase inhibition, generation of free radicals and violation of intracellular calcium homeostasis.