

Glycogen in the liver of streptozotocin diabetic rats

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Authors: Kharchenko KO, Kushnir OYu.

Institution: Bukovinian State Medical University

Background: Diabetes mellitus is a common but serious metabolic disorder. Glucose metabolism is disturbed due to an absolute or relative insulin deficiency.

Objectives: The aim of the present study was to evaluate the effect of water and saline overload on concentration of glycogen in the liver of streptozotocin (STZ) diabetic rats.

Material and methods: Male Wistar rats weighing 180 +/- 50 g were made diabetic by injection with a single intraperitoneally (i.p.) dose of STZ (65 mg/kg b. w.). After 5 and 12 days was carried out to determine the level of glucose in vivo. Blood was taken from the tail vein evaluate the basal glycemia level with the use of One Touch Ultra (Life Scan, USA). Water stress was carried out by introducing the animals water at the rate of 5% of body weight. Saline loading diabetic rats was performed by introducing a 0,1% NaCl at a rate of 5% of the body weight of rats. Liver samples were collected at day 12 post STZ injection (from diabetic group serum glucose level significantly elevated \leq or = 300 mg%, $p \leq$ or = 0.05). Determinations of glycogen content in the liver made by standard methods.

Results: Our results showed decrease of glycogen content in groups of diabetic rats and diabetic rats with water overload by an average of 20% respectively compared with the same indexes of control rats. According to the results obtained in the blood of rats with STZ diabetes, which had saline stress, content of glycogen decreased by 32% compared with the same indexes of control rats. So, diabetes in rat liver is accompanied by increase phosphorolysis of glycogen.

Conclusion: Salt load accelerates the process using glycogen in diabetic rats.