



ABST-0611

A New Approach To The Treatment Of Diabetes Mellitus With Pancreatic Cells At An Experimental Level

Nodirjon RUZIMURODOV*

Cell Therapy, Institute Of Immunology And Human Genomics, UZBEKISTAN

Background : According to verified estimates, the incidence of diabetes mellitus in the adult population has almost doubled over the past decades, from 4.7% in 1980 to 8.5% in 2014 (standardized estimate). The number of people with diabetes increased by 108 million in 1980 to 451 million in 2017 and is estimated to reach about 578 million (10.2%) in 2030 and about 700 million (10.9%) in 2045

Methods : At an experimental level, we have performed pancreatectomy in rats to study pancreatic islet cells. In other rats, we have induced alloxan diabetes, which leads to an increase in frequency of 40% of body weight.

Results : The study showed that the frequency of alloxan diabetes increases significantly, appetite, lethargy, hair loss, polyuria appear, body weight decreases (up to 21%). Hyperglycemia persisted stably (up to 17.9 mmol/l), which suggested the development in experimental rats with alloxan diabetes after insulin therapy in a satisfactory condition, lethargy and hair loss were eliminated, but insulin therapy stopped weight loss (but did not reach baseline values). Hyperglycemia increased hyperglycemia (within 11.0 mmol/l), which is 3-5 mmol/l lower than in rats with alloxan diabetes without insulin therapy. After the disease of pancreatic islet cells in rats with alloxan diabetes, after a few days, there is an improvement in the general condition, the disappearance of thirst, lethargy, and hair loss. Age gradually gains body weight (up to 104.4% of the original for 60 days), and therefore it is required to obtain dark growth with control animals. Hypoinsulinemia in rats with alloxan diabetes was accompanied by the content of the contrainsular hormone glucagon. Insulin therapy of rats with alloxan diabetes depends little on the content of glucagon - its level practically does not differ from untreated (within 125-169 pg/ml). Normalization of endogenous insulin parameters after transplantation of pancreatic islet cells to rats with alloxan diabetes was accompanied by normalization of the content of the hormone glucagon as well (within 57-78 pg/ml).

Conclusions : Thus, transplantation of pancreatic islet cells led to the normalization of insulin and glucagon levels, and a decrease in glycemia in rats with alloxan diabetes.

Corresponding Author : **Nodirjon RUZIMURODOV** (ruzimurodov.2019@mail.ru)