PREDIABETOGENIC ACT OF MARINATED TOMATOES — LYCOPERSICON ESCULENTUM MILL.

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In compliance with the theory of diabetogenesis of Ibn Sina, (sugar) diabetes (type 2) is considered as the hepatic renal disease, which occurs as a result of changes of nature (mizaj) of inside (endon) into cold strontium. We have previously shown that cold nature corresponds to acid reaction, and warm corresponds to alkaline reaction, pH. The aim of this work was to study the nature and the actions of marinated tomatoes (MT) for the development of insulin resistance (iR) and prediabetes in the subacute experiment.

Results. The PMT in the case of daily intragastric (i/g) injection for 14 days, respectively, decreased the pH of blood and urine by 2.96 and 8.2 %, compared with an intact series. The level of the marker for diabetes HG glycated hemoglobin (GH) of red blood cells after the conducted course of the PMT had increased the rate of 45 %. In the acidic environment pH of the organism there was violated the tolerance of the organism of experimental animals to insulin. In setting up the test of tolerance to insulin (0.5 IU per kg, e/r) in experimental animals by 45–90 and 90–180 min the blood glucose levels, respectively, decreased only by 62.1 and 59 % versus 86.1 and 70.3 % in the control series. The ghypoglikemic effect of insulin in the acidic environment of the organism from an average of 24 % (after 45–90min) to 10 % (after 190 minutes) revealed weaker than in intact animals.

Under the action of the PMT, the level of cholesterol in blood serum increased 1.5-fold, triglycerides by 42.4 %, LDL more than 2-fold, and HDL cholesterol decreased by 59.4 %. The amount of total protein in the blood serum decreased by 12.4 %, and 32.5 % for albumin. The level of bilirubin increased almost 2-fold. ALT of serum increased by 46.6 % and AST by 25.8 %.

Under the action of the PMT the level of uric acid in the blood serum of experimental rabbits raised by 65.6 % urea in a two-fold, creatine in 3 times and the residual nitrogen by 54.3 %. The found data testify about the manifestation of severe nephrotoxicity and hepatotoxic effects of MP, in general, promoting the development of IR and prediabetes.

Conclusions: The conducted experiments showed the early not known mechanism of the development of the insulin resistance of prediabetes, and characteristic to type 2 diabetes, occurring under the action of widely used worldwide marinated tomatoes.