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### **Effect of methyltrienolone on the metabolic disorders in rat model of Alloxan-induced diabetes**

**Aim:** The aim of the study was to investigate the restoration of metabolic imbalance related with deficiency of insulin by the exogenous androgen supplementation in the experimental model of alloxan-induced diabetes in Wistar male rats.

**Methods:** The experimental diabetes was induced by a single intraperitoneal administration of alloxan. The concentrations of glucose, immunoreactive insulin, corticosterone, testosterone and estradiol were examined in blood, the intensity of DNA and RNA synthesis and androgen receptor expression were studied in the liver tissue – at 15th, 30th and 45th days of alloxan-induced diabetes. The synthetic androgen methyltrienolone was administered to rats with 30-days diabetes during 15 days. All data were compared to control group received solvent.

**Results:** The induction of diabetes increased the concentrations of glucose, corticosterone and estradiol while decreases insulin and testosterone concentration in blood as well as DNA/RNA synthesis and androgen receptors expression in hepatocytes. The administration of exogenous androgen significantly restored the metabolic imbalance and the expression of androgen receptors and increased DNA/RNA synthesis in liver cells maintained close to control level.

**Conclusion:** The administration of methyltrienolone reduced the effect of “diabetic stress” and restored the hormonal dysfunction induced by alloxan.

#### **Biography**

Davit Tophuria is the Dean of International Faculty of Medicine of Tbilisi State Medical University, Senior Specialist of University Strategy Development in DAUG University and Vice-Principal in Education and Science in Dimitry Kipiani School from 2004-2007. Assoc. Professor of Human Normal Anatomy Head of International Students Academic Department from 2007-till now, He has done 85 International Publications and attended 25 International Conferences.

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