

# ABSTRACT BOOK

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## 6<sup>th</sup> International Scientific Interdisciplinary Conference for medical students and young doctors



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Kharkiv National Medical University, Kharkiv, Ukraine

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**Material and methods.** The work was made on 45 rats, which were injected intraperitoneally with alloxan, in doze of 180 mg/kg. Blood glucose levels were measuring 1, 2, 3, 5, 7 days after injection. The organs were taken 1, 2, 3, 5, and 7 days after the injection. Material was fixed in 10% neutral formalin and embedded in paraffin by standard methods. Histological sections of the pancreas were studied immunohistochemically with antibodies against insulin (the marker of differentiated B-cells), glucagon (the marker of differentiated A-cells).

**Results** of the study showed the decrease of B-cells number in pancreas islets during the first days of the experiment, which were restored at the last days. The number of A-cells was maximum at the early dates of the experiment and become lower at the late dates. Morphometrically we have seen that the summary area of insulin- and glucagon-possitive parts of pancreas islets was more than 100 %.

**Conclusion.** We made a conclusion that there were cells, which produced both of this hormones at the 1 day of the experiment. We conclude that when there is an acute hyperglycemia, B-cells in rats pancreas islets can regenerate through the stage of glucagon-producing cells. Scientific project is supported by grant of the President RF MK-3632.2011.7

**Grin V.V.**

## **CHANGE OF THE LEVEL OF CIRCULATING IMMUNE COMPLEX UNDER THE INFLUENCE OF "ALTAN" AND "VITAMIN A" AT LOCAL ULTRAVIOLET RADIATION**

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**Background.** Recently the background of ultraviolet radiation attaining a surface of the Earth has been growing. Negative effects of ultraviolet irradiation (UVI) are more often connected with depression of immune responses. One of indicators of the immune status is the level of circulating immune complex (CIC) in blood.

**Aim.** To study the changes of CIC level in blood serum of Guinea pigs in posterythermal period of UVI skin under the influence of "Altan" and "Vitamin A".

**Material and methods.** The study included 60 Guinea pigs -albinos with weight of 650-800 g. They were divided into 4 groups: first group consisted of intact animals (n=6); in second there were animals undergone local UVI (control group without treatment, n=18); animals of the third and fourth groups in a treatment-and-prophylactic regimen were prescribed "Altan" (n=18) and "Vitamin A" (n=18) accordingly. Photoprotective activity of medical drugs was studied on the model of an acute exudative inflammation of UV-erythema. Erythema was caused by dose 1 – minimum erythermal dose. "Altan" and "Vitamin A" were introduced per os 40 minutes before, 2 hours after an irradiation and daily up to erythema extinction. Animals were excluded from the experiment right away after erythema extinction, on 14-th and 28-th days by a decapitation under an anesthesia with Thiopental-sodium use according to bioethics norms. CIC level in blood serum was determined by



method polyethylenglycol - precipitation (Digeon et al., 1977; Haskova et al., 1978). The obtained data were processed statistically; in comparison of samples the Student t-test was used.

**Results.** By results of our study in animals the erythema without treatment disappeared on 10-th day. At this time concentration of CIC was reliably ( $p < 0.05$ ) more (on 21.3 %) than in intact animals. On 14-th day CIC level was growing, exceeding the norm by 44.5 % ( $p < 0.05$ ), on 28-th day this level reduced (it was above physiological value by 23.1 % ( $p < 0.05$ )). With treatment-and-prophylactic use of "Altan" the erythema disappeared on 8-th day. At that time the contents of the CIC in blood serum of Guinea pigs reliably did not differ from indices of control group. On 14-th and 28-th days the decrease of their level was by 21.9 % ( $p < 0.05$ ) and 31.1 % ( $p < 0.05$ ) accordingly in comparison with group without treatment. Under the influence of "Vitamin A" the erythema also disappeared on 8-th day. The trend of changes in the level of CIC in blood serum did not differ from found out at use of "Altan": on 8-th, 14-th and 28-th days the concentration of CIC was reliably reduced in comparison with a control group by 14.8 % ( $p < 0.05$ ), 29.1 % ( $p < 0.05$ ) and 12.2 % ( $p < 0.05$ ) accordingly.

**Conclusions.** Thus, local UVI skin of Guinea pigs result in the increasing of concentration of CIC in the posterythermal period (10-28 days) with its maximum on 14-th day. "Altan" and "Vitamin A" reduce CIC level, but do not result in its recovery even at distant posterythermal terms. It testifies to enough serious disturbances of the immune processes induced by UVI.

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### **OUTSTANDING HOME SURGERY V.N. SHAMOV AND FORENSIC-MEDICAL SIGNIFICANCE OF HIS CONTRIBUTION TO THE STUDY OF BLOOD TRANSFUSION**

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**Background.** At the present stage of development of medicine blood transfusion (blood transfusion) is a widespread manipulation in all countries of the world. Technique of its performance as well as goals and objectives of its using have been studied in depth and substantially devoid of issues. Thanks to this manipulation millions of lives were saved, including cases that took place during wars and major natural disasters. However, the first significant step in the study of blood transfusion was made only in the XVII century, when the English physician William Harvey discovered blood circulation in human body. As the same time there was the first attempt to transfusion blood. It aroused interest of scientists and physicians and they started working in this direction actively.

In the Soviet Union, practice of blood transfusion only became widely used in the 20s of the last century. The first science-based blood transfusion was made on June 20, 1919 by the Soviet surgeon V.N. Shamov, who was the head of the Department of Surgery of Kharkov Medical Institute. Development of the issues