WORLD FORUM ON ACADEMIC INNOVATION AND DIGITAL LITERACY

DESCRIPTION OF MORPHOLOGICAL CHANGES IN THE KIDNEYS AS A RESULT OF ALCOHOL INTOXICATION AND HOUSEHOLD GAS POISONING

Kayimova Dinora Ikhtiyorovna

Bukhara State Medical Institute, Department of Anatomy, Clinical Anatomy (OSTA)

Abstract: *This thesis presents data on the toxic effects of chronic alcoholism and household gas on the morphometric characteristics of the kidneys of 3-month-old white crossbred rats.*

Keywords: *renal capsule, renal corpuscles, Shumlyansky Bowman's capsule, convoluted tubules, renal cortex and medulla.*

Relevance: Much attention is paid to the study of kidney pathology, which is of great importance in ensuring the excretory and detoxification functions of the body. This is due to the fact that most of the studies conducted to study the effects of toxic factors are based on the analysis of pathomorphological processes [2].

Chronic alcoholism and poisoning with household gas are among the factors affecting the physical and mental state of a person. First of all, constant heavy alcohol consumption among toxicological patients and chronic poisoning with household gas lead to the deterioration of the functional systems of most organs and systems of the body, in particular, the kidneys among the urinary organs, and ultimately to the development of the disease [1,3].

Currently, numerous studies have confirmed the negative effects of ethanol and household gas on the human body, including parenchymal organs, and in addition, structural changes in various organs and tissues under the influence of alcohol and gas have been described. Experimental studies have been conducted

to determine the relationship between chronic alcoholism and poisoning with household gas, but the study of the morphological and functional state of the kidneys in this case is still insufficient. Therefore, this condition requires a more in-depth morphological study.

Materials and methods of study: 10 three-month-old white rats of both sexes kept in vivarium conditions were used for the study. In the study, white rats were poisoned with alcohol and household gas. Then, at the end of the study, all animals were anesthetized under light isoflurane ether anesthesia, the abdominal cavity was opened, and the kidneys were removed. For further histological examination of the isolated kidneys, they were fixed in 10% neutral formalin solution. Kidney preparations were prepared using standard histological methods. These preparations were subsequently stained with hematoxylin-eosin and van Gieson stains. Microscopy of the preparations was performed under a trinocular microscope with a magnification of × 60, × 80, and corresponding photographs were taken, and all the results obtained were statistically analyzed and the average sample parameters were calculated.

Results and Discussion: No macroscopically obvious pathological changes were observed in the kidneys of 3-month-old white rats of the study group.

Histological examination showed that a number of clearly visible changes occurred in the structural structure of the kidneys of animals with chronic alcoholism and poisoning with household gas. In the kidney preparations of the combination group, the processes of necrobiosis and necrosis (cell death) prevailed in the epithelium of the proximal tubules. We observed that the tubular space was filled with desquamated epithelium and protein cylinders. This indicates that the toxic effect of alcohol several times enhanced the hypoxia caused by the gas. Severe edema and small hemorrhages (petechiae) were

observed between the renal pyramids and the cortical layer. Fibrinoid swelling and perivascular infiltration (lymphocyte accumulation) were detected in the walls of blood vessels.

Conclusion: Household gas poisoning against the background of chronic alcoholism forms a "toxic-hypoxic nephropathy" in 3-month-old rats. Comparative analysis shows that when both factors act together, the degree of kidney damage is 2.5-3 times higher than when they act separately.

REFERENCES

1. Vasiliev A.P., Streltsova N.N. Alcohol and alcohol. Smezhnye problemy.2018; No. 1 (2):82-85.

2. shcherbakova V.M. Morphometric indicators of basic structural components of nephrons of white rats in acute and chronic alcohol intoxication in experiments. Forensic medical expertise. 2016;59(4):28-30.

3. Tsai J-P, Lee C-J, Subeq Y-M, Lee R-P, Hsu B-G. Acute alcohol intoxication exacerbates rhabdomyolysis-induced acute renal failure in rats. Int J Medical Sci. 2017;14(7):680-689.