



referred to VI class of toxicity according to K.K. Sydorov classification, that is, relatively harmless substances, LD₅₀>5000 mg/kg. Bile-expelling and hepatoprotective activity of a dry extract of *Antennaria dioica* herb is determined in the dose of 50 mg/kg.

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NEPHROPROTECTIVE ACTIVITY OF THE ADEMATIONINE AND GLUTATHIONE IN ISCHEMIA-REPERFUSION ACUTE KIDNEY INJURY

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Today, due to significant advances in drug treatment and the improvement of renal substitution therapy, the mortality rate from acute kidney injury (AKI) remains high and is about 40-65%. There is no exception for the ischemic-reperfusion form of the AKI with its multifactorial pathogenetic development and rapid progressive course, the cause of which is usually injury, sepsis, kidney transplantation, and the effects of toxic substances. Aim of research – to study a nephroprotective potential of ademetonine and glutathione in ischemia-reperfusion acute kidney injury in rats.

Experiments were conducted on 21 sexually active non-linear white rats weighing 130-180 g. Animals were divided into 3 groups (n=7): group I – control (pseudo-operated animals), group II – Ischemia/Reperfusion modeling (I/P), group III animals received intramuscular injection of ademetonine 20 mg/kg (Heptral, «Abbott SpA», Italy) intradermally during the three days prior to I/P simulation, animals of the IV group received glutathione 30 mg/kg (TAD 600, «Biomedica Foscoma», Italy). Doses of drugs are determined by reverse extrapolation. Ischemia was modeled according to aseptic conditions under general anesthesia (aethaminalum sodium, 40 mg/kg): they performed mid-laparotomy, isolated each kidney, imposing on the renal leg of the clamp for the purpose of crossing the artery, veins and ureter for 60 minutes, followed by sealing the abdominal cavity. After removing the clamp, the abdominal cavity was stained with subsequent 24-hour reperfusion and a grading of the kidneys. Statistical processing of the results was performed using SPSS Statistics 17.0. The reliability of the difference between the scores was evaluated using the parametric t-criterion of Student (in normal distribution) and non-parametric Mann-Whitney U-criterion (in case of mismatch with normal distribution). The critical value level was adopted for $p < 0.05$.

In animals, after the pathology modelling were significant changes in the excretory function of the kidneys, which manifested in a decrease of diuresis by 84%, a decrease in GFR in 3.1 times, and a significant reduction in water reabsorption, indicating the development of renal hypofiltration, and, accordingly, the oliguric stage of the AKI. Significant decrease in glomerular filtration led to the development of retention azotemia: the concentration of creatinine in the blood plasma increased by 2.6 times, compared with the group of pseudo-controlled animals. Instead, the administration of the investigational drugs led to increased urinary excretion in the treated animals, preventing the development of oliguria: when using ademetonine, diuresis increased by 53.8 %, glutathione – by 81.1 %, compared with those of the animals in the group of pathology. Accordingly, there was a resumption of glomerular filtration (with the use of ademetonine GFR increased 1.7 times glutathione - 2.7 times) with a significant restoration of water retention and reduction of retention azotemia: the concentration of creatinine in blood plasma decreased by 1.4 times and in 2, 1 time in comparison with animals of the group of pathology. Due to the injury of the filtration apparatus of the nephron in animals of the model pathology group, there was a significant proteinuria: the concentration of protein in the urine increased 3.1 times, and its excretion – 4.8 times, compared with the group of intact animals. The use of the investigational drugs led to a significant reduction in proteinuria: ademetonine reduced the concentration of protein in urine by 1.5 times, glutathione – by 2.2 times, with excretion decreasing 1.7 times in the group of ademetonine and 3.2 times in the glutathione group, which indicates a decrease in the degree of damage to the nephrocytes.



Thus, in ischemia-reperfusion kidney injury, the use of the investigated derivatives of sulfur-containing amino acids (ademetionine and glutathione) in the prophylactic regimen significantly limited epithelial cell damage, as evidenced by an increase in GFR, diuresis, a decrease in retention azotemia and proteinuria in treated animals.

Ezhned M.A.

THE PLACE OF HERBAL REMEDIES IN PHARMACOTHERAPY

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Despite the rapid development of the pharmaceutical industry and the production of synthetic drugs, interest in herbal remedies is steadily increasing. According to WHO, about 80% of the population of the planet prefer herbal preparations despite the fact that only 7% of all flora (more than 23 thousand of plants) is used for phytotherapeutic purposes.

The aim of the work was to analyze the phytodrugs in the pharmaceutical market and to determine their place in pharmacotherapy.

Today, about 60% of all medicines on the Ukrainian pharmaceutical market are made from medicinal plants. According to the analysis of the over-the-counter medicines range, the amount of herbal remedies is 30% and medicinal plant raw materials - 5%, which is mostly represented in the form of teas. However, about 500 species of medicinal plants are used to obtain herbal remedies.

Phytodrugs have the best performance in the ratio "Efficiency / Safety" because they have no contraindications and side effects and in no case can harm the body if used under the doctor's control. Preparations of different plants blend well together, often enhancing each other's actions. Also, phytodrugs have good compatibility with synthetic drugs, allowing them to significantly increase the therapeutic effect of treatment during their reasonable combination.

One of the main benefits of herbal treatment is to have a healing effect not only on the individual organ but also on the body as a whole. The same qualities of herbal remedies make it possible to use them for a long time, especially in chronic disease treatment.

Phytotherapy does not give immediate results, its use requires patience and accuracy. It should also be noted that herbal remedies are not appropriate to use in acute conditions and as a basic drug in the underlying disease, so phytotherapy requires a serious scientific approach, as self-treatment using medicinal plants is dangerous.

Considering all the advantages and counterbalances, we can assume that herbal remedies are an additional component in the treatment of the underlying disease, which will reduce polypragmasia. Their use for disease prevention should prevail in the choice of medicines within the framework of pharmaceutical care.

Therefore, the development of phytotherapy is a priority in the population health improvement, prevention of acute and chronic diseases and improvement of life quality. However, a reliable pharmaceutical supervision program should be offered in each case.

Fedotova M.S.

MENTAL HEALTH OF THE UKRAINIAN POPULATION: THE STATE, PROBLEMS AND THE WAYS TO SOLVE

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Mental, neurological, and addictive disorders are common in all the regions of the world, affecting every community and age group across all developed countries. While 14% of the global burden of disease is attributed to these disorders, most of the people affected - 75% in many low-income countries - do not have access to the treatment they need. Mental disorders are one of the top public health challenges in the European Region, affecting about 25% of the population every year. According to the survey, 2.3% of Ukrainians suffer from mental disorders and behavioral