

dose of 25 µg/kg. During development of the fever, rectal temperature was measured every 30 min. Animals were withdrawn from the experiment 24 h later, while blood, urine and kidneys were sampled for biochemical and histopathological assessments. Statistical processing of the obtained data was performed using the SPSS Statistics 17.0 software.

According to obtained results, in the first stage of fever, heat production predominates over heat transfer, which in pathogenesis is actually the effect of low temperature and is accompanied by the activation of the sympathetic and renin-angiotensin systems, respectively. This explains the decrease in GFR. The increase in protein excretion in the urine in the first stage of fever is due to the ischemic effect of angiotensin 2 on the cortical region of the kidneys, where localized proximal tubules responsible for protein reabsorption. Fibrin filaments were deposited at the site of destroyed nephrocytes, which was detected during Slinchenko staining as a small-focal character of changes in the properties of proteins with a shift in color to red. In the second stage of fever, the body temperature reaches the level of a new reference point, heat production is balanced with heat transfer, and fever performs its biological role. This normalizes the activity of the renin-angiotensin system, which was increased in the first stage of fever, resulting in increased GFR and there is an expansion of the capsule Shumlyansky-Bowman. Inhibition of distal reabsorption of sodium ions with dystrophic changes in the epithelium of the tubules of this nephron is due to energy deficiency of the kidneys, because the energy of ATP in the second stage of fever is used to ensure its biological role. Inhibition of proximal reabsorption of sodium ions and insignificant dystrophic changes of the epithelium of the proximal tubules in the third stage of fever decrease in temperature with predominance of heat transfer over heat production due to hypoxia of the kidneys due to blood clotting due to intense sweating.

With the development of aseptic fever on white nonlinear male rats with hyponatremic diet found: in the first stage (temperature rise) vacuolar dystrophy of the epithelium of the proximal tubules and small-focal nature of changes in the properties of proteins with a shift in color to red (standing) high level) expansion of the lumen of the Shumlyansky-Bowman capsule and dystrophic changes in the epithelium of the distal tubules, in the third stage (decrease in temperature) moderate expansion of the lumen of the Shumlyansky-Bowman capsule and insignificant dystrophic changes in the epithelium of the proximal tubules. Morphological disorders in the dynamics of the development of fever reflect the nature of changes in renal function.

Korovenkova O.M.

THE EFFECT OF THIO CETAM ON THE EXCRETORY FUNCTION OF THE KIDNEYS UNDER THE CONDITIONS OF BLOCKADE OF PROSTAGLANDIN SYNTHESIS

Department of Pharmacy

Bukovinian State Medical University

It is known that prostaglandins (PG), namely, eicosanoids, that synthesized in kidney cells as natriuretic (PG E) and sodium delays (GHG F2a), take a direct part in the regulation of renal circulation and kidney function.

The purpose of the paper was to conduct a series of experiments against the background of inhibition of prostaglandin.

We studied 18 male rats, which were divided into 3 groups: with and without thiocetam 250 mg/kg (control group) and with indometacyn 100mg/kg. An experimental and case-control design was used. Biochemical methods were used in the study of blood and urine. Renal sodium transport was calculated after 2 hours, taking into account body weight. Kidney function was estimated at 5% including by weight of water.

According to our results, the inhibition of prostaglandins by indomethacin in rats reduces diuresis by 30%, inhibition of prostaglandins by indomethacin in rats reduces glomerular filtration rate by 1.7 times, the concentration of sodium ions in blood plasma was decreased by 30%, plasma creatinine concentration was also decreased (from 71.3±2.83 µmol/l to 61.8±1.25 µmol/l, P<0,01), as well as decreased renal excretion (from 2.4±0.09 µmol/2h in control up to 1.2±0.04 µmol/2h in the experiment, P<0,01).

Therefore, inhibition synthesis of prostaglandins by indomethacin in animals significantly reduced diuretic and saluretic effects of thiocetam, indicating the possible involvement in eicosanoids to the renal effects of thiocetam.

Kostyshyn L.V.

THE ACUTE TOXICITY STUDY OF TAGETES LUCIDA CAV. DRY EXTRACT

Department of Pharmaceutical Botany and Pharmacognosy

Bukovinian State Medical University

An important characteristic of the substances of medicinal plants that are studied in order to create new drugs, in addition to high pharmacological activity should be their safety. In order to obtain information on the safety of new substances their acute toxicity is determined. This type of research allows one to obtain the necessary information to establish the toxicity level of the test substance, to determine the relationship between dose and adverse effects of the tested substance and to determine the species and gender sensitivity of laboratory animals to its action. A pharmacognostic analysis of species of *Tagetes* L. cultivated in Ukraine, golden marigolds was performed and the presence of phenolic compounds (flavonoids, hydroxycinnamic acids, tannins), essential oils, carbohydrates, fatty and amino acids was evident in their raw material (herb) as well as the dry extract from the studied raw materials was obtained.

Marigold (*Tagetes* L.) – a kind of annual or perennial herbaceous plants, which has about 50 species and about 600 varieties. Only 7 species have been introduced into the culture. In Ukraine, only the National Botanical Garden named after M.M. Hryshko of the National Academy of Sciences of Ukraine and the Donetsk Botanical Garden of the National Academy of Sciences of Ukraine cultivate golden marigolds (*Tagetes lucida* Cav.). Marigolds or Mexican tarragon (*Tagetes lucida* Cav.) Is a perennial herb with a strong pleasant aniseed scent that grows wild in the mountains of Mexico. This species is used in traditional medicine as an antihypertensive, antipyretic, diuretic, carminative and tonic medication.

The aim of the given research was to study the acute toxicity of the dry extract of golden marigold grass using the V.B. Prozorovsky method.

The study was performed on 30 white nonlinear male and female mice weighing 20-22 g which were divided into groups of 6 animals (3 males and 3 females) in each. Animals were intragastrically administered dry extracts of golden marigold herb in the dose range of 2000, 3000, 4000 and 5000 mg/kg. The control group of mice received equivolume amounts of purified water. To calculate the average lethal dose (LD50) after 14 days, the percentage of mortality in each group was determined according to the method of probit analysis of mortality-response curves according to V.B. Prozorovsky. After 14 days, the animals were removed from the experiment by dislocation of the cervical vertebrae, an autopsy was performed as well as the macroscopic examination of the internal organs (heart, lungs, kidneys, liver, spleen), in the end they were weighed and the mass coefficients were determined. The obtained data were statistically processed by the method of variation statistics using the statistical program Statistica 6.0.

The results showed that even after a single intragastric administration of dry extract of the golden marigold herb to mice of both sexes during the entire observation period, no deaths of experimental animals were registered. No abnormalities in the appearance of the animals were also observed. All animals were active, had smooth fur and clean skin, normal appetite, responded to sound and light stimuli, normal urination and defecation was preserved.

The administration of dry extract of golden marigold herb in doses from 2000 to 5000 mg/kg in no way affected the dynamics of body weight of mice of both sexes in comparison with the control group. Experimental and control animals gained weight in accordance with physiological norms. In the study of the absolute mass of the heart, liver, spleen, lungs and kidneys, calculating the relative mass of internal organs of animals (g) per 100 g of body weight, it was found that the mass of internal organs and relative mass of internal organs in mice of experimental groups did not change in relation to the mass of the internal organs of the control group. The administration of dry extract of golden marigold herb did not cause animal death in all applied doses during the entire