Conclusions. Thus, the range of drugs used to treat Alzheimer's disease is replenished with new means and new approaches to treatment, due to the expansion of our knowledge about the mechanisms of development of this pathology.

STUDY OF THE CHARACTERISTICS OF DRUG-INDUCEDLIVER DAMAGE

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Introduction. Currently, the pharmacopoeia includes several thousand drugs that can cause drug-induced liver damage (DILD). Side effects of drugs cause jaundice in 5% of hospital patients, 40 % of hepatitis in patients older than 40 years and 25 % of cases of acute hepatic insufficiency. The frequency of these conditions increases every year, which is due to free access of the population to drugs, the appearance of a large number of drugs on sale, dispensed by the pharmacy network without a prescription, and the lack of sufficient information on their possible side effect. Currently, mortality associated with the consumption of drugs, comes in fifth place. Thus, DILD is one of the serious problems of hepatology. **Aim.** To study morphological changes in the liver, under the influence of drug therapy.

Materials and methods. Carrying out the enzymodiagnosis of liver diseases – the determination of the activity of enzymes, which are associated with the work of the liver. Easily damaged enzymes are found in the membrane or cytoplasm of hepatocytes (lactate dehydrogenase, aminotransferase and alkaline phosphatase) and their activity increases in the clinically asymptomatic phase of the disease. With chronic liver damage, the activity of mitochondrial enzymes (aspartate aminotransferase) increases. Cholestasis increases the activity of bile enzymes (alkaline phosphatase).

Results and discussion. Morphological manifestations of DILD are diverse: focal necrosis of hepatocytes, granulomatosis, mononuclear eosinophil infiltration, cholestasis. Continuation of taking drug leads to the progression of hepatitis to fibrosis or cirrhosis of the liver, the development of hepatic insufficiency, the presence of autoantibodies. There is an increase in the activity of alanine aminotransferase, aspartate aminotransferase, alkaline phosphatase, y-glutamyltransferase, bilirubin content. The most common clinico-morphological forms of DILD: necrosis of hepatocytes; mitochondrial cytopenia, fibrosis; steatohepatitis, damage to the blood vessels of the liver; acute hepatitis; chronic hepatitis, tubular cholestasis, bile sludge; sclerosing cholangitis; liver tumors, etc.

Conclusions. In the treatment of this pathology, it is important to abolish drugs; strict adherence to the rules for taking drugs and doses; diet therapy; use of metabolic and coenzyme therapy; recommended the intake of antioxidants and hepatoprotectors, as well as detoxification therapy.

AWAKENING ACTION OF HETEROSIDES ON THE MODEL OF THIOPENTAL ANESTESIA

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Introduction. Natural disasters, wars and man-made disasters are accompanied by "traumatic" epidemics. This dramatically increases the role of urgent surgery, the effectiveness of which depends not only qualified surgeons, but also the presence of extemporaneous preparations required during operations and rehabilitation activities.

In the field conditions it plays an important role causing a duration of operation depends on the duration of surgical procedures, on a duration of anesthesia. Limited surgical and rehabilitation personnel is a factor, which can determine the speed and effectiveness of rescue measures.

Special means, which are capable to interrupt anesthesia fast, efficient and harmless in the arsenal of modern pharmacology don't exist at all. Amount of traditional analeptics for last 10 years did not increase, what makes the development of appropriate drugs particularly urgent problem.

The aim of our study was to find original substances with the wake-up action in the series of sulfur- and nitrogen-containing heterocycles.

The anti-narcotic effect (ANE) of the substances studied was performed on white nonlinear mice weighing 20-30 g on the model of thiopental anesthesia. Animals were divided into 4 groups, each of which received the intraperitoneal solution of sodium thiopental. The length of the anesthesia (LA) of the first group was served as a control. At the peak of anesthesia, the second group received Heteroside-21, the third - Heteroside-31, and the fourth - a comparison drug (Sulfokamfokaine) .The main indicator of the ANE of the substances studied was a decrease in the ANE (an awakening effect). The criteria for exposure to the breathing center (BC) was the frequency of respiratory movements (FRM) in several phases of anesthetic sleep before and after the administration of the wake-up preparations. The FRM was counted for 60 seconds, starting immediately after taking mice of the lateral position (LP) (FRM 1), and every subsequent ten minutes (correspondingly, FRM 2 - FRM 9). The introduction of Heteroside-21, Heteroside-31 or Sulfokamfokaine in groups 2-4 was carried out at the 31st minute immediately after the calculation of BH 4). The last measurement (FRM 9) was carried out after the mice received positions on four paws (full awakening).

The reliability of the obtained results was evaluated according to the criteria of Newman-Keals and Kruskal-Wallis in the program Statistica 10.0.

Results and their discussion (Table 1). In the course of the studies, it was found that the optimal depth and duration of thiopental anesthesia was achieved at a dose of 42 mg / kg. In this case, the test substances showed a marked arousal effect: Heterosides in a dose of 2 mg / kg, Sulfokamfokaine - 20 mg / kg.

Table 1

Awakening action of substancws under study on the model of thiopental anesthesia

Substances administered to mice	Average LA		IPA%
Sodium thiopental 42 mg / kg (n=6)	85 min 20 sec (5120,2 ± 79,9)	100%	0
Sodium thiopental + Heteroside – 21 2,0 mg / kg (n=6)	62 min 26 sec (3745,8 ± 253,3) *	73,2%	26,8
Sodium thiopental + Heteroside – 31 2,0 mg / kg (n=6)	64 min 29 sec (3868,8 ± 158,5) *	75,6%	24,4
Sodium thiopental + Sulfokamfokaine 20 mg / kg (n=6)	55 min 29 sec (3328,8 ± 224,3) *	65%	35
p	0,00001		

Note. * Significant difference from control index ($p < 0.05$) on criterion parametric Newman-Keylsa (Statistisa 10.0);

The experiment showed that the Heteroside-21 booster effect was 1.37 times higher, and Heteroside-31 has 1.32 times higher effect than the control group. In comparison the effect of Sulfokamfokaine both Heterosides showed 8.2% and 10.6% less while doses of Sulfokamfokaine was 10 times larger than both Heterosides (2 mg/kg).

When administered thiopental, FRM 1 - FRM 4 reliably ($p < 0.05$) decreases from 78.6, respectively; 70.2; 65.3 to 61 respiratory movements per minute (RM / min). This experimentally confirms the oppressive effect of anesthetic drug on the central nervous system in general and RC in particular (Table 2). Immediately after the introduction of Heteroside -21, Heteroside-31 and Sulfokamfokaine, a significant increase in RM / min- FRM 5 was observed for 12.6%, 12.5% and 51.8%; FRM for 33.7%, 28.4% and

34.2%, respectively; FRM 7 by 15.6%, 17.9% percentage point for the Sulfokamfokaine group was already absent, because all the mice from the group by this time already woke up; FRM 8 was measured only for the groups of both Heterosides and in both cases was 15% larger than the control group. FRM 9 was measured only in the control group, since all other groups of mice by this time had already woken up.

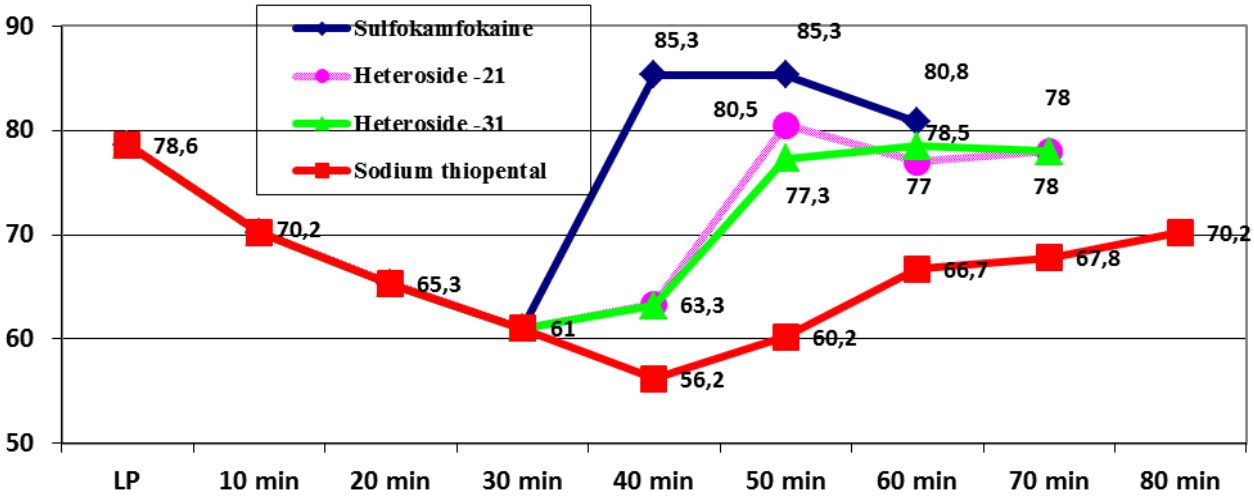

Chart 1. Changes to the BH in different stages of anesthetic sleep

Conclusions:

1. As a result of the conducted studies, the dynamics of RM / min against the background of thiopental anesthesia for Heteroside-21, Heteroside-31 and Sulfokamfokaine (comparator preparation) was established.

2. One of the mechanisms of anti-narcosis action of Heteroside-21, Heteroside -31 is the activation of the respiratory center of the central nervous system.

3. Derivatives of sulfur and nitrogen containing heterocycles are a promising group for the search of original analeptic drugs (wake-up action).

INFLUENCE OF DRY EXTRACT OF TANACETUM VULGARE FLOWERS ON PROTEIN AND LIPID EXCHANGE INDICATORS IN TERMS OF TOXIC HEPATITIS IN RATS

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Introduction. In previous experimental studies, a pronounced hepatoprotective and choleretic effect of the dry extract of Tanacetum vulgare flowers (DETVF) was established.

Aim. The study of the changes in the main indicators of protein and lipid metabolism under the influence of DETVF.

Materials and methods. DETVF was obtained at the Department of Botany of the NUPh under the guidance of prof. T. N. Gontovaya. Investigations of the effect of DETVF on metabolic processes were carried out on the model of toxic hepatitis caused by the introduction of tetrachloromethane (50% oily solution at a dose of 0.4 ml/100g, subcutaneously) with alcohol (40% ethanol 1.3 ml / 100g, intragastrically) in rats for 4 days. DETVF was administered in the treatment-prophylactic mode during the reproduction of pathology in doses: 75 and 100 mg/kg and 7 days before the start of the control pathology simulation once a day. As a comparison, the plant hepatoprotector "Karsil", which was administered at a dose of 100 mg / kg, was selected. Statistical processing of the results was carried out using the "Statistica 8.0" program.

Results and discussion. In conditions of pathology, in the blood a decrease in the total protein content by 1.5 times ($p < 0.05$) and an increase in the urea level by 1.3 times ($p < 0.05$) and cholesterol by 1.3 times ($p < 0.05$) with respect to intact control was established. The introduction of "Karsil" contributed to positive changes