of the NH3 + - -O2SO-R sulfoamide bond, indicates the formation of a bond between protein molecules and shopping center.

The absorption region of 720 cm-1 corresponds to the vibrations of the -C-H bond of the primary carbon atoms in the TCS molecules, the sulfate groups located at these atoms are more accessible and primarily interact with the amino groups of the protein, as evidenced by the decrease in the bands in this region in the samples complexes. With an increase in the Lys: TLC ratio, intense absorption bands appear in the region of 3200-3500 cm-1, which are characteristic of internal and external intermolecular hydrogen bonds, the number of which increases due to the interaction of two molecules.

Conclusions. Comparison and analysis of the data of the IR spectra of the samples of TCS, lysozyme and the obtained complexes confirm the complexation between the protein and TCS occurring due to electrostatic and other intermolecular forces of interactions.

METHODS OF QUALITY CONTROL OF CHONDROITIN SULPHATE IN MEDICINES AND DIETARY SUPPLEMENTS

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Introduction. Chondroitin sulfate is a major component of the extracellular matrix of many connective tissues, including cartilage, bone, skin, ligaments, and tendons. Osteoarthritis is characterized by progressive structural and metatolic changes in the joint tissues, mainly cartilage degradation, subchondral bone sclerosis and inflammation of the synovial membrane. Treatment of osteoarthritis involves multimodal treatment, which includes chondroitin preparations in the form of gels, ointments, capsules, tablets and injectable solutions. To prevent the acute phase of the disease, dietary supplements with chondroitin are presented on the pharmaceutical market.

Aim. The key task of the pharmaceutical industry today is to provide quality products, so the development and improvement of quality control methods is an urgent task for quality control of the active pharmaceutical ingredient, regardless of the dosage form and the presence of excipients.

Materials and methods. «Artrox», solution for injection (100 mg/ml), «Struktum», capsules (500 mg) and dietary supplement «Chondroitin Sulfate» were used for the studies.

Results and discussion. According to the monographs of the British Pharmacopoeia and the US Pharmacopoeia, the quality determination of the active ingredient is determined by the method of turbidometric titration, the disadvantage of this method is the lack of appropriate equipment in laboratories of different levels. To quantify the active substance in the studied objects, it is proposed to use the method of photometry after the previous reaction of the drug with carbazole. The method of quantitative determination of chondroitin sulphate was developed using a substance with an active substance content of 99.8%. The results were convergent, linear in the range from 80% to 120%. Therefore, it was decided to test the method on drugs of different dosage forms and dietary supplements. To do this, prepare a 1% aqueous solution of chondroitin. Then an aliquot (2.0 ml) is mixed with 10.0 ml of a 0.2% solution of disodium tetraborate in sulfuric acid and made up to 25.0 ml with water. Under the same conditions, prepare a comparison solution using a standard sample of chondroitin sulfate. The control solution is prepared by mixing 2.0 ml of water with the reagent

and bringing to 25.0 ml. All solutions are heated at 96-98°C for 20 minutes, then add a freshly prepared solution of 1 g / l carbazole and heat again.

The product colored red is characterized by a maximum light absorption at 530 nm, which was chosen by the analytical wavelength. When quantifying chondroitin sulfate in three samples of different dosage forms, it was determined that excipients do not contribute to optical density, which was confirmed by studies on placebo solutions and model mixtures, ie the method is specific for chondroitin sulfate.

Conclusions. The proposed method of photometric determination of chondroitin sulfate can be used to determine the active ingredient in medicines in the form of tablets and solutions for injection, as well as in monocomponent dietary supplements.

DEVELOPMENT OF METHODS FOR ISOLATION OF GLYCLAZIDE FROM URINE SOLID-PHASE EXTRACTION METHOD

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Introduction. Gliclazide among sulfonylurea derivatives is one of the most widely used antidiabetic drugs, which is part of the modern protocol for the treatment of type 2 diabetes. However, its uncontrolled use, particularly in Ukraine, can create a toxicological hazard, primarily related to the availability of the drug through over-the-counter leave, the specificity of the contingent due to old age, side effects, including the development of hypoglycemic conditions in overdose and other factors.

Thus, according to the FDA and *patientsville.com*, in many countries of the world in the period 2014-2019, more than 300 cases of acute gliclazide poisoning were registered under various circumstances. Fatal poisonings are mainly associated with suicide overdose. All such cases must be subject to forensic toxicological examination in accordance with the law.

Aim. The aim of the research was to develop a method of isolation of gliclazide from urine by solid-phase extraction (SPE) for analytical diagnosis of acute drug poisoning.

Materials and methods. Model urine samples were used as the object of study. Oasis HLB Extraction Cartridges, 150 mg, were used to isolate gliclazide by SPE. Quantitative determination of gliclazide in the extracts was performed by HPLC with UV detection on a liquid chromatograph "Milichrome-A-02" (AC "Ekonova", Novosibirsk). Analysis and processing of chromatograms was performed using the program "Analytics-Chrom".

Results and discussion. In domestic forensic toxicological laboratories, preference is given to liquid-liquid extraction as the main method of isolation, purification and concentration of toxicants. However, the use of the SPE method can significantly reduce the total time of the analytical study, reduce the cost of solvents and avoid a significant number of errors.

To achieve the goal of the study to 50 ml of a urine sample was added 1 ml of methanolic solution of gliclazide containing 200 μg of the drug. To isolate gliclazide by SPE, Oasis HLB Extraction Cartridges, 150 mg, were preconditioned with 1 ml of methanol and 1 ml of distilled water. After that, 1 ml of urine was passed through 5 cartridges and washed with 0.1 M hydrochloric acid solution. Elution of the toxicant was performed with 2 ml of methanol acidified with 0.1% hydrochloric acid solution. The obtained extracts were evaporated in a stream of nitrogen and the dry residue was dissolved in 200 μl of methanol. Detection of gliclazide in methanol extract