THE STUDY OF SUPPOSITORIES WITH LAMINARIA

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Introduction. Research and development of new effective medicines for the preparation of the cervix to the birth is an actual problem in obstetric practice. The analysis of literary data and patent documentation shows that the interest of researchers to the use of medicinal plant material, because there are plants, a number of active substances that have a complex effect on the body. In obstetric practice, such raw material is natural kelp.

Among the various forms of drugs used in obstetrics and gynecology, the most promising, easy to use and successfully combine the features of local application and peripheral action, are suppositories. The main advantages of the suppositories are: ease of administration, the rate of absorption of the active substance, local effect, possible prescription of the drug, inactivated in the gastrointestinal tract, direct intake of the active substance in a large circle of blood, passing the effect of the first passage through the liver.

Aim. Taking into account all of the above, was conducted the complex research in the development of the composition and technology of vaginal suppositories with natural kelp powder.

Materials and methods. As bases was used witepsol, Supporin-M with the addition of PEG, Suppotsyr NaS.

Preparation of suppositories was carried out by pouring method. In the case of a lipophilic basis the technological flowchart was of such a kind. Laminaria powder, succinic acid and sodium benzoate are ground. Solids were introduced into the base at a ratio of 1: 1. Preliminary base was melted in a water bath at T not higher than 40 ° C. Further, a mixture of grinded powders was added at constant mixing using a propeller mixer (300 min-1) into a molten base. The A grade fat was melted in the reactor, followed by the introduction of surfactant and emulsifier T-2.

Dyphylic compositions with PEG as a hydrophilic component were prepared according to the following technologicy:

Kelp powder, succinic acid and sodium benzoate were grinded, then introduced into PEG – 400. Base melted in a water bath at a temperature below 40°C. In the molten basis was dispersed mixture of powders in PEG.

Hydrogen-based suppositories of PEG were prepared according to the following technology: Kelp powder, succinic acid and sodium benzoate were grinded, administered in PEG 400. PEG 1500 base was melted in a water bath at 60°C. In a molten base, was dispersed mixture of powders in PEG 400.

The suppository forms filled with a suppository mass were placed in a fridge to form suppositories.

Results and discussion. The results of suppositories with natural laminaria powder studies indicate that the bases used in the experiment provide a preparation that meets the requirements of the StPHU. The time of complete deformation varies within the permissible limits, dissolution of suppositories on the PEG-bases also meets the standards of the StPHU. Introduction of PEG into the basis of Suporin-M provides the necessary time for complete deformation and desolution in water; on the other hand, PEG improves the administration of the drug substance to the base, since the drug substance is introduced in the dissolved form, which allows the suppository to be more stable.

In dyphylic base which contain PEO and represent emulsion of water / oil type the content of the hydrophilic phase was 10 %. Increasing the content of PEO alloy by more than 18 % or decreasing the lipophilic phase by less than 70 % led to the formation of aggregatively unstable compositions, which began to split after 5-10 minutes during the technological process.

On the other hand, the introduction of the hydrophilic phase in amount less than 18 % led to the formation of stable aggregation and such suppository mass easily poured into molds.

Introduction into a lipophilic basis Solid fat brand A, amber acid, sodium benzoate and kelp powder, led to the need for the introduction of stabilizers at least 2 %. The melting temperature of such

suppositories was 33-35 °C, while the time of complete deformation was 1-3 min. However, to improve the adhesive properties, the amount of emulsifiers was increased up to 10 %.

The amount of polysaccharides in the powder of natural kelp powder in the suppositories was 0.024 ± 0.0004.

Thus, the quality of developed suppositories with kelp powder meets the requirements of StPHU "Suppositories"

It has been shown that the method of administration of drugs to the suppository basis affects not only the time of complete deformation (dissolution), but also the release of active substances from suppositories.

Conclusion. It was found that the most rational are compositions on lipophilic and differential bases such as: kelp powder + witepsol, kelp powder + Supaturium NaS. Obtained suppositories meet the technological requirements: aggregate stability of the emulsion system in the alloy during the time of preparation (1 hour, t 50 °C), when pouring into forms and cooling; time of complete deformation of suppositories no more than 15 minutes; time of dissolution of suppositories no more than 1 hour.

THE COMPOSITION AND TECHNOLOGY DEVELOPMENT OF GELS ANTI-INFLAMMATORY ACTION BASED ON PROPOLIS PHENOLIC HYDROPHOBIC DRUG

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Diseases and injuries of the musculoskeletal system (IMS) is one of the most pressing reasons for limiting physical activity of people with active lifestyles. Inflammation musculoskeletal tissues occur usually during or after exercise, including overload associated with professional sports, extreme or work, accompanied by long stereotyped movements in the muscles and joints.

Most common manifestations of inflammatory diseases and degenerative tendons, muscles and joints are considered pain, seizures, tumors and soft tissue inflammation near the joint that significantly affect the pathological process and the quality of life of patients. In most cases, the success of the treatment depends not only on the correct choice of a drug in terms of the symptoms described in the instructions for use and evidence-based research on the effectiveness of the drug, but in general also how we stand unable to compare the clinical impact of medications means to the individual characteristics of the patient.

In modern conditions in pharmacotherapy IMS to eliminate inflammation and ease pain commonly used NSAIDs. However, currently remains unresolved a number of questions regarding the details of the pharmacological effects and adverse side effects of drugs of this group. Despite the fact that the range of drugs for the treatment of above named pathology is quite diverse, analysis of the pharmaceutical market of Ukraine demonstrates the need for the development of the domestic market sector preparations for the local treatment of diseases of IMS and the relevance of developing, manufacturing and medical practice new home, highly efficient and harmless drugs Local destination.

We have conducted research on the development in the new integrated drug in gel form based on compounds of synthetic and natural origin, including bee products to treat injuries IMS, which are mainly found in sports medicine. The structure of the drug includes active pharmaceutical ingredients – propolis phenolic hydrophobic drug (Praeparatum Propolis phenohydrophobum) (Registration Number № UA/4505/01/01, order Ministry of Public Health of Ukraine of 17.07.2016 № 730 g.), a local anesthetic, menthol and rosemary oil, rational concentration which was established by the analysis of contemporary literature. Conducted research also studied the structural, mechanical and technological properties in order to choose the basis for investigational gel, the choice gel creators and its concentration, and provided indicators of quality control was included in the project is designed to quality control the drug.