Conclusions. As a result of the research, it was established that the most effective allergy pharmacotherapy scheme was the one that included Allerzin 5 mg, and the least expensive in terms of course dose was the scheme containing Aleron 5 mg.

Velia M.I.

RESEARCH OF THE CHOICE OF THE BASIS OF A SEMI-SOLID MEDICINE WITH A SEMI-SOLID EXTRACT OF FEVERFEW (TANACETUM PARTHENIUM)

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Introduction. In recent years, a number of scientific works by Ukrainian scientists have been devoted to the study of the chemical composition and pharmacological activity of insufficiently studied medicinal plants. At the Department of Botany of National University of Pharmacy (NUPh), under the leadership of Prof. Gontova T.M., a semi-solid extract of feverfew (SSFE) of the Asteraceae family was obtained. A high content of phenolic substances in the classes of hydroxycinnamic acids, and sesquiterpene lactones and flavonoids was found.This spectrum of biologically active substances provides pronounced anti-inflammatory, antibacterial and analgesic effects, which was confirmed by pharmacological studies. In this regard, the creation of a new pharmaceutical drug of local action on the basis of SSFE is certainly promising. The leading place in the treatment of skin lesions is given to the means for external application in form of semisolid medicines (SSM). Thus, the aim of the research was to choose a carrier base to create a drug in the form of a semisolid dosage form (SSDF) with a semisolid extract of feverfew.

The aim of the study. To conduct the research on the choice of the basis for a mild drug with a semisolid extract of feverfew for use in dermatology.

Materials and methods. In the study of the solubility of a semisolid extract of feverfew (SSFE) the method of optical microscopy using a laboratory microscope “Konus Academy” was applied. Determination of pH and homogeneity of the studied samples was performed according to the methods described in SPhU, Vol.1. The bioavailability of the model samples was investigated by diffusion in 3 % agar gel. Colloidal stability and thermal stability were determined according to the methods of GOST 29188.3-91. Measurements of rheological parameters were performed on a rotary viscometer “MYR 3000 V 2R” (Viskotech, Spain). Determination of particle distribution was performed using a laser diffraction analyzer of particle size Mastersizer 3000.

Results. The best results in determining the organoleptic properties, stability and degree of release of biologically active substances (BAS) showed the samples prepared on emulgel and gel bases. Structural and mechanical parameters of the samples on these bases proved the presence of a non-Newtonian type of flow with plastic and thixotropic properties. When determining the distribution of SSFE particles by optical diffraction, their smaller size was determined in the sample on an emulgel basis in comparison with the gel.

Conclusions. Emulgel loaded with specific drugs has been found effective in some topical disorders, and it is emerging as potential drug delivery system in the area of dermatology. Since emulgel shows enhanced spreadability, adhesion, viscosity and extrusion. Based on the obtained results, an emulsion gel base was chosen as a carrier for a semisolid drug with SSFE.

Zamorskii I.I.

ANTIHYPOXIC ACTIVITY OF THE DERIVATIVE OF 2-BENZAMIDO-2-(2-OXOINDOLIN-3-ILIDEN) ACETIC ACID UNDER THE CONDITIONS OF ACUTE HYPOBARIC HYPOXIA

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Introduction. Hypoxia is a pathological condition that occurs when there is an insufficient supply of oxygen to tissues or disorder of oxygen uptake during the process of oxidation. It occurs under the conditions of oxygen deficiency in the environment, and as a result of various pathological processes and diseases associated with disorders of the respiratory and cardiovascular

systems, the blood transport function or metabolism. Drugs affecting the metabolism during hypoxia – antihypoxants, which are agents that improve oxygen consumption by the body and reduce oxygen demand of tissues and organs, thereby increasing the body's resistance to oxygen deficiency, are of particular interest (Zamorskii I.I., Bukataru Y.S., Kolisnyk S.V.et al., 2016).

The aim of the study was to conduct screening of the antihypoxic activity among 2-(benzoyilamino)(1-R-2-oxoindolin-3-ylidene)acetic acid derivatives under the conditions of acute hypobaric hypoxia.

Material and methods. Biologically active substances – derivatives of 2-(benzoyilamino)(1-R-2-oxoindolin-3-ylidene)acetic acid – synthesized at the Department of Analytical Chemistry of the National University of Pharmacy by professor S.V.Kolisnyk were selected for study. The research was conducted under the conditions of acute hypoxia on 156 nonlinear white mature male rats weighing 180-200 g aged 3 months and moderately resistant to hypoxia. Acute hypobaric hypoxia was simulated in the modified flow pressure chamber by imitation of the lifting of rats to an altitude of 12000 metres. The substances studied were administered intraperitoneally 35 min before hypoxia modelling in the dose of 15 mg/kg in the form of an aqueous suspension stabilized by polysorbate 80 (Tween 80). The reference drug – antihypoxant mexidol (ethylmethylhydroxypyridine succinate) was administered in the dose of 100 mg/kg. The antihypoxic activity of substances was assessed by the animals' survival indices at the "high-altitude plateau": the time of the posture loss; the lifetime – the time till the second agonal inspiration; the posture recovery time after termination of hypoxia and a gradual return of animals to the previous zero altitude; and the overall lifetime of animals – summation of the time of the posture loss and the lifetime.

Results. Established that under acute hypobaric hypoxia increase integral index of the antihypoxic activity of substances – overall lifetime of animals on the "high-altitude plateau" the significant changes were observed in the groups of substances under numbers 4, 14 and 15. But in group of substance at number 4 mortality rate of animals reached 20%, significantly exceeded the control data. At the same time compound number 14 by its antihypoxic activity significantly increased overall lifetime of animals by 150% comparing to control data, but its effect was significantly weaker than the effect of reference drug mexidol, which increased the lifetime of animals by 197% ($p < 0.05$). For substance at number 15 overall lifetime of animals increased by 186% comparing to the control data ($p < 0.05$) and didn't differ significantly from that of the reference drug.

Conclusions. The obtained data indicate that the most of studied substances – derivatives of the 2-(benzoyilamino)(1-R-2-oxoindolin-3-iliden)acetic acid demonstrate certain antihypoxic properties as previously investigated derivatives of 2-(benzoyilamino)(1-R-2-oxoindolin-3-iliden)acetic acid. However, only a compound at number 15 corresponds to the antihypoxic efficacy of the reference drug, and by the index of recovery of the animals' physical activity after their staying at the "high-altitude plateau" (posture recovery time) exceeds the effect of an antihypoxant mexidol.

Богдан Н.С.

ДОСЛІДЖЕННЯ ФІЗИЧНИХ, ФІЗИКО-ХІМІЧНИХ ТА ФАРМАКО-ТЕХНОЛОГІЧНИХ ПОКАЗНИКІВ ТА КРИСТАЛОГРАФІЧНИХ ВЛАСТИВОСТЕЙ ДІЮЧИХ РЕЧОВИН

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Вступ. Перед науковцями постає важливе завдання щодо створення нових природних противиразкових препаратів полівалентної комплексної дії (антиоксидантної, мембраностабілізуючої, антихелікобактерної та інше), які б проявляли достатню фармако-терапевтичну дію та мінімальні побічні ефекти.

Мета дослідження. Перспективними в даному аспекті є стандартизовані біологічно активні субстанції природного походження, розроблені на основі продуктів бджільництва –