Materials and Methods. Critical parameters of the half-finished product and the developed anti-viral gel (in relation to the adenovirus) can be all the quality indicators presented in the draft of quality control methods. The critical parameters of the process were determined – the technological parameters that have a direct influence on the characteristics of the gel during production and subject to regulation and identification. The critical parameters of the weighing operation are the accuracy and correctness of the weighing of components, cross-polluted chemical contamination, microbial contamination, the quality of the labeling system, the risk of substitution of materials. Critical parameters of gel preparation are time of homogenization, the rotation speed of the mixer, homogeneity, vacuum depth, intermediate product control. The critical parameters of the packaging operation are the quality of the primary packaging materials and the possible mechanical contamination of the drug from the equipment. These include the correctness of the marking, the control of tightness of the package; when packed in a secondary packaging – the marking of packages and the correctness of the printed information.

Results and Discussion. These technological parameters were given attention during the testing and scaling of the developed gel technology. The critical technological parameters of the production of nasal gel for the treatment of viral rhinitis are shown in Table.

Table

Critical parameters of the nasal gel's production

The name of the stage of the technological process	The name of the technological parameter	The value of the technological parameter
Preparation of solution of licorice root extract	completeness of dissolution	according to the product. recipes (visually)
Preparation of solution of essential oils	completeness of dissolution	according to the product. recipes (visually)
Preparation of solution of propylene glycol	completeness of dissolution	according to the product. recipes (visually)
Obtaining of gel base	time of homogenization the rotation speed of the mixer pH of the base	20 min. 42 rpm 6.40±0.05
Obtaining of gel, its homogenization	time of homogenization the rotation speed of the mixer homogeneity vacuum depth intermediate product control	20 min. 42 rpm according to the product. recipes (visually) 0.6-0.7 bar according to the product. recipes
Packing of gel in tubes	precision of dosing the performance of the machine correctness of stamping	according to the product. recipes (visually)

Conclusions. Thus, observance of all the specified technological parameters and their documentary confirmation can ensure that the processes that will be carried out in accordance with the technological regulations will be implemented effectively with reproducible results and obtaining a medicinal product that will meet the requirements of the draft of quality control methods.

THERMAL STABILITY STUDY OF ANTIALLERGIC EMULSION

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Introduction. The prevalence of allergic diseases is increasing worldwide, particularly in low and middle income countries. Moreover, the complexity and severity of allergic diseases continue to increase

especially in children and young adults, who are bearing the greatest burden of these trends. In order to address this major global challenge that threatens health and economies alike it is important to have a global action plan that includes partnerships involving different stakeholders from low-, middle-, and high-income countries. Allergic diseases include life-threatening anaphylaxis, food allergies, certain forms of asthma, rhinitis, conjunctivitis, angioedema, urticaria, eczema, eosinophilic disorders, including eosinophilic esophagitis, and drug and insect allergies. Moreover, allergic diseases commonly occur together in the same individual, one disease with the other. This requires an integrated approach to diagnosis and treatment and greater awareness of the underlying causes amongst family physicians, patients as well as specialists.

The main drugs in the complex treatment of allergic diseases are antihistamines. Their choice depends on the age of the patient, the specific clinical situation, the diagnosis. Unfortunately, the number of effective antiallergic drugs on the modern pharmaceutical market, which must meet modern requirements for medicines is extremely low. That is why, the actual task of modern medicine and pharmacy is the creation of new effective antihistamines.

Aim. Theoretical and experimental substantiation of the composition of extemporaneous emulsion with loratadine.

Materials and methods. During the study, the following objects were used: Loratadine, Dimethylsulfoxide, Fish oil, Methyl cellulose, Polysorbate 80 and purified water. In carrying out the work of physical and chemical studies were used.

Results and discussion. When preparing pharmaceutical emulsions, it is necessary to take into account the physical and chemical properties of medicinal substances.

Loratadine is insoluble either in water or in oil, therefore dimethylsulfoxide was chosen as a solvent for loratadine, which, besides has good dissolving properties, also has an antiseptic effect and is a low-toxic substance. In addition, dimethylsulfoxide is well mixed with purified water. It follows that the solution of loratadine in DMSO also mixes well in purified water.

As emulsifying agents, long-known drugs, polysorbate-80 and a 5% solution of methylcellulose, were chosen in the pharmacy technology of drugs. As a result of the preparation, oil / water emulsions were obtained.

Emulsions were prepared in a continental fashion. The parameter by which the stability of emulsions was determined was the study of thermal stability. The raised temperature reflects stability in contrast to centrifugation, because at elevated temperature, the viscosity value decreases.

Therefore, we prepared samples of emulsion. According to the literature data amount of Loratadine was 0.4 and amount of dimethylsulfoxide was 0.4. For Sample 1 and 2 mass of oil fish was 10.0, for Sample 2 and 4 – 15.0. Polysorbate-80 was used for preparation of Sample 1 and 2 in quantity 2.0 and 3.0 respectively, 5% methylcellulose solution was used for preparation of Sample 3 and 4 in quantity 20.0 and 30.0 respectively.

The emulsions were observed for 10 days, noting every day the height of the layers: oil (o), cream (c), emulsion (em), clear solution (s). According to these data, the sedimentation coefficient Ks was calculated. According to the data obtained, the thermo stability of the emulsion was derived, consisting of 4 sedimentation coefficients, reflecting the state of the layers in order from top to bottom in relative percentages and having the form: o/c/em/s.

Table 1.

RESULTS OF THERMOSTABILITY

Composition	Formula of thermostability
№ 1	9,1/10,4/71,4/9,1
№ 2	0/6,5/93,5/0
№ 3	22/28,6/23,4/26
№ 4	19,5/22/26/32,5

As can be seen from Table. 1, in the stability formula of the sample of emulsion 2, after 10 days of storage at 40 ° C: o/c/em/s = 0/6,5/93,5/0 there is no release into the oily phase of fish oil and water release. In the sample 3, the oil phase was 22%, and in the 4 oil phase it was 19,5%, indicating a virtually complete destruction of the emulsion. In the sample 1, oil phase was 9.1%. It’s not bad, but also, some

stratification we saw. That's why we decided to use for preparation of emulsion polysorbate-80 and quantity of fish oil 15.0 for preparation of emulsion with mass 100.0.

Conclusions. As a result of our studies, we have come to the final composition of a new external emulsion for the treatment of allergic diseases, which includes the second generation antihistaminic substance – loratadine, antiseptic and analgesic substance – DMSO, as well as fish oil, which also has anti-inflammatory and soothing effect.

SUBSTANTIATION OF THE COMPOSITION AND TECHNOLOGY OF THE OINTMENT ON AN EMULSION BASIS FOR THE TREATMENT OF ERYSIPELAS

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Introduction. Among all pathologies of infectious nature, the degree of prevalence of erysipelas of tissues is immediately after acute respiratory diseases, infections of the gastrointestinal tract and hepatitis. Due to the presence of relapses in a significant number of patients, as well as the emergence of frequent severe complications and residual events, this disease becomes of great socio-medical significance. According to the sampled data, the incidence is, on average, 15-20 cases per 10,000 population. In this case, as a rule, not more than 10-12% of the total number of patients are hospitalized. The disease is recorded mainly in older age groups. In the last decade there has been a tendency for a sharp increase in the number of patients with destructive forms of erysipelas.

Aim. Substantiation of the choice of active pharmaceutical ingredients for the creation of a complex ointment.

Materials and methods. During of the composition development of the extemporal ointment for the treatment of erysipelas, the following active pharmaceutical ingredients were used: dioxysol, sulfadimezin, hydrocortisone acetate, cocoa butter, glycerol monostearate and cetyl alcohol.

Results and discussion. Treatment of patients with erysipelas is complex and is carried out in a differentiated manner taking into account the nature of local manifestations, the severity of the course of the disease and the presence of complications. The complex of treatment measures usually includes etiotropic, desensitizing, detoxification, symptomatic therapy.

In the analysis of the range of industrial products used for the treatment of erysipelas, it was found that virtually all drugs used for systemic and local therapy erysipelas contain antibiotics or sulfanilamides. That is why, when developing the composition of the extemporal ointment, it was also suggested to introduce components that have an antibacterial effect.

The composition of the drug was decided to introduce the following active pharmaceutical ingredients: sulfadimezin, dioxysol, hydrocortisone acetate.

Sulphadimezin is a short-acting sulfanilamide preparation. Active against gram-positive and gram-negative cocci, E. coli, shigella, klebsiel, cholera vibrio, gas gangrene causative agents, anthrax, diphtheria, catarrhal pneumonia, plague, as well as chlamydia, actinomycetes, and toxoplasmosis agents. This medicinal substance has bacteriostatic effect.

Dioxysol (Dioxysol®-Darnitsa) is a combination medicine for local use, the active substances of which are dioxidine and lidocaine. The solution has a strong antibacterial, local anesthetic and moderate hyperosmolar effect, reduces inflammation, stimulates the repair processes. Dioxidine has a pronounced antibacterial effect on gram-negative and gram-positive, aerobic and anaerobic, spore-forming and asporogenous microflora. Lidocaine has a local anesthetic effect due to the blockade of potential dependent Na^+ channels, which prevents the generation of impulses at the end of the sensory nerves and conduction of pulses on the nerve fibers. At local application, it expands blood vessels, does not induce local irritation.

Hydrocortisone acetate has anti-inflammatory, antispasmodic, desensitizing, anti-toxic, anti-allergic, immunosuppressive and anti-metabolic action. The ointment was injected as 2.5% solution.