DEVELOPMENT OF THE TECHNOLOGY AND RESEARCHES OF ORAL SUSPENSION ON THE BASIS OF SILICS

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Introduction. Most bacterial gastrointestinal illness is short-lived and self-limiting; however, loss of fluids due to severe diarrheal illness can lead to dehydration that can, in some cases, be fatal without proper treatment. Oral rehydration therapy with electrolyte solutions is an essential aspect of treatment for most patients with gastrointestinal disease. Usually gastrointestinal illness infections cause abdominal cramping followed by diarrhea.

Diarrhea occupies one of leading places in symptoms of diseases of internal organs. World Health Organization testifies that during the last decade annually in a world register the 1.0-1.5 billion cases of diarrhea. This syndrome of different etiology takes second place after the diseases of the heart-vessels system as the reason of sudden destruction of man, which comes for 2-3 days.

Aim. Researches on the development of the optimal technology and quality analysis of liquid medicinal form as an oral suspension became the aim of our work.

Materials and methods. Samples of suspension became the object of researches. When solving the tasks posed in the work, the following methods were used: physical, physical-chemical, technological.

Results and discussion. The optimal technology of the oral suspension has been developed on the basis of results of microbiological investigations. During the experimental part different methods for determination of basic physical, chemical and technological characteristic of prepared oral suspension have been carried out. Prepared standards of suspensions have been analyzed on the following parameters: original appearance, time of stratification, re-suspendability. Quality of the suspension's samples have been analyzed by qualitative reactions and IR-spectroscopy. For the quantitative determination of silicon, a modified gravimetric method has been used that is apply to analyze silicon oxide in a standardized substance. The quantitative determination of preserving agent was carried out by liquid chromatography - a modern method that provides specificity, accuracy and reproducibility of the results. The possibility of application of the developed methods with the purpose of standardization of medicine has been proved experimentally.

Conclusions. On the basis of results of researches the development of the optimal technology was developed and quality analysis of liquid medicinal form as an oral suspension was conducted.

DEVELOPMENT OF THE COMPOSITION OF THE EXTEMPORAL SUSPENSION FOR TREATMENT OF ACNE

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Introduction. Acne vulgaris is the most common inflammatory, chronic, relapsing disease of the sebaceous follicular apparatus with localization in the face, back, chest, sometimes buttocks. Up to 80 – 85% of people suffer from acne of varying degrees. The prevalence of comedonal forms of acne during puberty approaches 100%. Representatives of all races and of both sexes are affected. The disease does not threaten life, but requires treatment and psychological help.

Genetic factors play a key role in the formation of the disease. There are the following main etiological factors: pathological follicular hyperkeratosis, increased secretion of sebaceous glands, disruption of production and exchange of androgens.

Today, among the means for treating rashes, the use of sulfur-containing preparations is widely popular.

Aim. The purpose of our work was the development of the composition of the extemporal suspension for the treatment of acne, containing active pharmaceutical ingredients, acting on all pathogenetic links of the disease.

Materials and methods. As the objects of the study, we chose sulfur precipitated, antibiotic levomycetin, which are active against Staphylococcus epidermidis and Staphylococcus aureus by taking part in the development of the inflammatory process, salicylic acid and sulfur purified.

Sulfur acts anticeptically, antiparasitically, in small concentrations (up to 10%), sulfur acts anti-inflammatory and keratoplastically, promoting the formation of epidermal cells. In high concentrations (more than 10%) sulfur preparations dissolve epidermal cells (keratolytic action due to the formation of disulfides and hydrogen sulfide in the deep layers of the epidermis) and leads to superficial peeling of the skin. The mechanism of action of sulfur preparations is the following: while interacting with organic substances, sulfur forms sulphides and pentathionic acid, which possess antimicrobial and antiparasitic activity.

Results and discussion. Based on the results of physical and chemical studies and analysis of formulations containing the above components, the composition of the extemporal suspension for the treatment of acne was developed. Pharmaco-technological research made it possible to justify the optimal technology of the drug.

Conclusions. The development of the extemporal suspension allows to expand the assortment of local drugs for local acne therapy and improve the quality of life of people suffering from this disease.

THE RELEVANCE OF DEVELOPMENT OF ORODISPERSIBLE TABLETS WITH CINNARIZINE

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Introduction. Cinnarizine, chemically known as (*E*)-1-(Diphenylmethyl)-4-(3-phenylprop-2-enyl)piperazine, is a H1-receptor antagonist with sedative, calcium-channel blocking and antihistamine activity. Cinnarizine may be used for the control of vestibular disorders such as tinnitus, vertigo, vomiting and nausea such as is seen in Meniere's Disease. Cinnarizine is effective in the control of travel sickness. It acts by reducing blood viscosity, anti-vasoconstrictor activity, and reducing nystagmus in labyrinth. Cinnarizine tablets are available as swallowed whole, chewed or sucked. Cinarizine tablets 15 mg can be used by adults and children over 5 years. Children over 12 and adult take two tablets 2 hours before travelling and one tablet every 8 hours during the journey. Children aged 5–12 years take one tablet 2 hours before travelling and half a tablet every 8 hours during travel.

Aim. The relevance of the composition and technology development of orodispersible tablets with cinnarizine.

Materials and methods. Comparative, logical and systematic analyses of data generalization were used in this scientific work.

Results and discussion. Cinnarizine is widely used in the treatment of motion sickness, vomiting and vertigo. It is water insoluble and tasteless. Cinnarizine is usually well tolerated by most patients. The conventional cinnarizine tablets need to be taken several times a day during journey which results in a patient non-compliance especially for pediatric and geriatric population and the onset of action is slow. On this basis, the practical medicine needs better drug delivery system of cinnarizine for rapid effect and enhanced patient compliance. Disintegration time is an important characteristic of tablets in clinical practice. Orodispersible tablets are gaining importance among other types of tablets as they have some advantages. They are also solid unit dosage forms, which disintegrate in the mouth within 60 sec in saliva. Thus this type of tablets helps a peroral administration in geriatric and pediatric population where swallowing is a matter of trouble. Orodispersible cinnarizine tablets may provide fast relief from travel sickness due to ease in swallowing, better compliance and quick onset of action. Patients do not need water to take orodispersible tablets.

Conclusions. The results of data generalization present that orodispersible tablets technology is a practically promising way to enhance the therapeutic efficacy of cinnarizine.