

Materials and methods. Previously the animals were infected with the candidal infection. In 5 days, after infection the vaccines studied were injected to mice intramuscularly in the volume of 0.2 ml in the upper part of the rear right paw. In 14 days, mice were injected these vaccines in the volume of 0.2 ml in the upper part of the rear left paw. In 14 days, the protection functions of the animals' organism were determined by the titer of *C. albicans* specific antibodies when performing the enzyme-linked immunosorbent assay (ELISA).

Results and discussion. With the first injection of the associated inactivated vaccine the antibody titers of *C. albicans* fungi were observed at the level of 1:800, indicating the insufficient immune response of a single injection since the antibody titers remained at the level of infected animals without their growth. After a double injection of the associated inactivated vaccine with an interval of 14 days there was an increase in the antibody titers by eight times (1:3200) compared to the titers in healthy animals and by four times compared to the infected animals. In 1 and 3 months of the studies the antibody titers remained at the same level and were 1:3200.

After the first injection of the associated subunit vaccine the antibody titers of *C. albicans* fungi were observed at the level of 1:800, indicating the insufficient immune response of a single injection. After a double injection of the associated subunit vaccine with an interval of 14 days there was an increase in the antibody titers by eight times (1:3200) compared to the titers in healthy animals and by four times compared to the infected animals. The studies conducted in 1 and 3 months demonstrated that antibody titers were eight times increased compared to the original data and were 1:3200.

Therefore, both vaccines provide the increase of the titers by eight times. For further studies the associated subunit vaccine was selected since it had the maximum purification and was without ballast substances. Ballast substances can provoke adverse immune reactions that will have a negative impact on the vaccine.

Conclusions. However, the subunit vaccine has the maximum purification from ballast substances; therefore, it is promising to use exactly this vaccine for further studies.

DEVELOPMENT OF THE MEDICINAL FORM BASED ON BACTERIOPHAGE STAFILOCOCCAL

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Introduction. In modern clinical practice, there is a tendency to change the diseases of the upper respiratory tract and increase the number of strains-microorganisms resistant to antibiotics. A possible alternative to antibiotics and chemotherapeutic drugs can be considered drugs based on bacteriophages with a wide range of antimicrobial effects, which will suppress both sensitive and antibiotic-resistant types of microorganisms. Infections of the ENT organs are a group of the most common acute diseases. Most of the infections of the ENT organs occur in viral diseases. The main pathogens of bacterial acute infections in otorhinolaryngology are: *Staphylococcus aureus*, *Haemophilus influenzae*, *Pseudomonas aeruginosa*, *Streptococcus pyogenes*. In addition to antibiotic resistance in pathogens of ENT diseases, the increasing frequency of allergic reactions to antibiotics is also a big problem.

Aim. Consequently, one of the main tasks is the development of medicines for the treatment of ENT diseases, namely the development of the composition and technology of pharmaceutical forms based on bacteriophages.

Materials and methods. At the Department of Biotechnology of the National University of Pharmacy, research is being conducted to develop the composition and technology of a combined dosage form with bacteriophage staphylococcal for the prevention and treatment of ENT diseases. To expand the spectrum of the antimicrobial action of the drug form with the bacteriophage, it is necessary to conduct studies on the choice of APIs to create a combined dosage form. For studies as an API, an extericide was chosen. Ekteritcid - a drug obtained from fish oil, contains aldehydes, fatty acids and peroxides. It has an antimicrobial effect against pyogenic (pyogenic) microflora (*Staphylococcus*, *Proteus*, *Pseudomonas*

aeruginosa and *Escherichia coli*). One of the advantages of this drug for the treatment of ENT diseases is that the ecocide is an oily liquid, which, when coated with a thin layer of mucous membranes, prevents them from drying out. In previous studies, the specific effect of the staphylococcus bacteriophage by the Appelman method and the antimicrobial properties of the extericide were studied by the method of two-fold serial dilutions.

To study the antimicrobial effect of a combination of a bacteriophage of staphylococcus and an extericide, test samples with different API ratios were prepared. The composition of the samples is shown in Table 1.

Table 1. - Compositions of test samples

Sample	Bacteriophage staphylococcal, ml	Ekteritcid, ml
I	50	50
II	75	25
III	87,5	12,5
IV	25	75
V	12,5	87,5

The study of the antimicrobial effect of the obtained solutions of the samples was carried out by the method of two-fold serial dilutions in vitro in a liquid nutrient medium. As test microorganisms used pure cultures of the American collection of cultures (ATCC): gram-positive cultures *Staphylococcus aureus* ATCC 25293, *Bacillus subtilis* ATCC 6633, gram-negative *Escherichia coli* ATCC 25922 and *Pseudomonas aureginosa* ATCC 27853. The presence of antifungal activity was tested on a yeast-like fungus *Candida albicans* ATCC 885-653.

Results and discussion. The results were recorded visually according to the presence or absence of turbidity in the test tubes (minimal inhibitory dilution - MIR), as well as inoculating Petri dishes with nutrient media to determine bactericidal action (DB). As nutrient media used to work with bacterial cultures - meat-peptone broth and meat-peptone agar, when working with a yeast-like fungus culture - Saburo broth and Saburo agar

The results obtained experimentally showed that the test solutions of the samples (IV and V) possess a wide spectrum of antimicrobial activity with respect to gram-positive (*Staphylococcus aureus* ATCC 25293, *Bacillus subtilis* ATCC 6633), gram-negative (*Escherichia coli* ATCC 25922 и *Pseudomonas aureginosa* ATCC 27853) bacterial cultures and show both bacteriostatic and bactericidal activity. With respect to the yeast-like fungus of the genus *Candida*, the antifungal activity in dilution 1/2 showed sample V. It should be noted that all test samples I-V possess antimicrobial activity against gram-positive cultures *Staphylococcus aureus* ATCC 25293, *Bacillus subtilis* ATCC 6633 in dilutions 1/2 and 1/4, and also show bactericidal action (sample II, IV and V – culture *Staphylococcus aureus* ATCC 25293, sample IV and V – *Bacillus subtilis* ATCC 6633).

Conclusions. Thus, the studies carried out to study the antimicrobial activity of the studied combined samples based on the bacteriophage of staphylococcal and ekteridid have shown promise of work, and further experiments will be aimed at developing the composition and optimal technology of a combined dosage form with antimicrobial properties for the prevention and treatment of ENT diseases.

PROSPECTIVITY USING OF LACTIC ACID IN A COMPLEX PROBIOTIC PREPARATION FOR THE TREATMENT OF ACNE

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Introduction. The modern market is full of various forms of medicinal, therapeutic and prophylactic and cosmetic products designed for a problem skin care of the face, prone to acne and post-acne onset. In the arsenal of dermatologists, a significant percentage is taken by symptomatic means, for example, antibiotics for the treatment of inflammation caused by microorganisms, or alcohol mixtures for