CREATION OF COMBINED PREPARATION "NEURONUCLEOS" IN THE FORM OF CAPSULE WITH MAGNESIUM LACTATE

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Introduction. The creation of combined medicines, which protect the nerve cell from pathological processes and stabilize its normal vital activity, is an actual and important task.

Such drugs prevent the destruction of nervous tissue and promote functional life, and as a result improve the quality of life of the patient.

Based on preliminary pharmacological studies, the qualitative and quantitative composition of the dosage form. In the capacity of acting was selected pyrimidine nucleotides, pyridoxine hydrochloride (vitamine B6), thioctic acid and magnesium salt are chosen in such a ratio that one drug can be influenced by many leading links in the pathogenesis of diabetic and alcoholic neuropathy.

Magnesium is an irreplaceable macroelement of the body and takes the fourth place after sodium, potassium and calcium in its prevalence in the human body. Preparations containing magnesium, today in the pharmaceutical market is pretty much. They differ in the form of output, the amount of "elementary" magnesium, bioavailability and combination with other active substances, more often with vitamin B6.

Organic magnesium salts have better bioavailability compared to inorganic salts.

As a result of preliminary pharmacological studies, the magnesium salt of lactate dihydrate was chosen and the amount of a single dose of magnesium in the dosage form (40 mg) was determined.

Aim. The purpose of our research was to study the physico-chemical and technological properties of one of the main active substances - magnesium lactate dihydrat for the creation of a combined preparation in the form of capsules for the treatment of neuropathy.

Materials and methods. The magnesium salt of lactate has properties inherent in the anion of organic lactic acid and inorganic magnesium cation. The magnesium ion is a doubly charged cation, which has the ability to complexify. Substance is little soluble in water,soluble in boiling water, "weight loss during drying" is from 14 to 17%. Molecular weight 238.50.

In addition to the above properties, it is also necessary to study the properties of the active pharmaceutical ingredient in order to develop the formulation and technology of the dosage form in the form of capsules, conditioning the technological characteristics of both individual powders and capsule mass (clumping, flowability, etc.).

It is necessary to evaluate active substances by such characteristics as shape and size of particles, bulk density, bulk density, angle of natural repulsion, which will allow to choose the technology of capsule mass production and will provide stability of the drug during storage.

Results and discussion. We have established that the technological properties of the capsule mass will mainly depend on the properties of magnesium lactate, since it is in the dosage form of more than 70% of the total amount of active substances (393, 0 mg per capsule).

In order to study the morphological properties and obtain the data of granulometric analysis, magnesium lactate dihydrate was studied using the "Opton" microscope from West, Germany. Analysis of the shape and size of the particles showed the monodispersion of the resulting system with the dominant structure in the form of crystals smaller than 0.2 mm.

The particle sizes are determined by the sieve analysis method. The presented technical characteristics were determined by HFC methods (2.9.16, 2.9.34).

The results are shown in Table 1.

Table 1 - Pharmacotechnological properties of mg lactate dehydrate

Parameters	***Values***
Flowability, g / s	0,5
Bulk density, g / cm3	0,695
Volume density, g / cm3	0,893
Angle of repose, degree	41-45

Grading, %	
particles of less than 0.4 mm	100,0
particles of size 0, 2 - 0.25 mm	4,0
particles less than 0.2 mm	96,0

From the results of the determination of the pharmaco-technological properties of the magnesium lactate dihydrate substance, it follows that the substance possesses optimal properties of density and flowability, which can allow obtaining a good process when mixed with other active substances with unsatisfactory characteristics when preparing a combined preparation in the form of capsules, taking into account also its quantity in the capsule (more than 70%).

Very important in the preparation of capsule mass is the correct calculation of the technical mass of the active substances, taking into account the content of the basic substance, which can vary depending on the "quantity" and "water loss in drying" measured in the raw material.

When calculating the amount of magnesium lactate dihydrate, it should be borne in mind that in its certificate of quality, the indicator "loss in mass during drying" includes crystallization and adsorbed water. Therefore, it is necessary to carry out the correct calculation when loading magnesium lactate dihydrate.

We used the magnesium lactate dihydrate substance as a "loss in mass when dried" ratio of 15.11%.

Conclusions. Thus, the physico - chemical and pharmacological - technological properties of the active ingredient - magnesium lactate dihydrate for further studies on the preparation of capsule mass and the selection of auxiliary substances were studied.

INFLUENCE OF THE BEE PRODUCTS ON COMMERCIAL AND CLINICAL STRAINS OF PROBIOTIC CULTURES

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Introduction. Due to the intensive development of pharmacy and pharmacology, an enormous amount of drugs and forms have been created to treat ever-increasing numbers of people. But more often, the synthetic medicines do not take into account the impact on other functional systems. They affect one side of the disease, thus, they are harmful to human health.

Although, natural biological active substances do not have an immediate effect on certain aspects of the pathological process, nonetheless, they treat the causes of the disease but not their symptomatology. Bee products can be classified as a group of natural biologically active substances. Honey, wax, propolis, floral dust and royal jelly are biologically active substances that act as biogenic stimulants and they have very valuable therapeutic properties. They are completely safe for the organism, because they have no side effects and contribute to the removal of poisons and salts of heavy metals. Also they have radioprotective effect. Bee venom has no less therapeutic properties, although its use is not recommended for patients with allergic reactions. The compositions of honey with other bee products give the greatest effect.

Last years, there has been appeared a sufficiently large number of probiotic drugs. But the main difficulty of the critical analysis of the literature is the large variety of microorganisms: *Bacillus subtilis, Bacillus licheniformis, Bacillus cereus, Lactobacillus acidophilus, Lactobacillus delbrueckii subsp. bulgaricus, Lactobacillus plantarum, Lactobacillus fermentum, Lactobacillus salivarius, Lactobacillus casei, Lactobacillus rhamnosus, Lactobacillus reuteri, Bifidobacterium bifidum, Bifidobacterium longum, Bifidobacterium adolescentis, Escherichia coli, Enterococcus faecium, Streptococcus alivarius subsp. thermophilus, Saccharomyces boulardii and others*. Probiotic drugs, supplements, natural foods that contain complex vitamins, minerals and have biologically active substances are becoming more popular.

Aim. The aim of the research was study of the influence of bee products on commercial and clinical strains of probiotic cultures. It will allow us to make a conclusion about the possibility of using them for stimulation their own microflora and constructing effective drugs for the prevention and treatment of dysbiotic conditions.