STUDY OF THE ASSORTMENT OF MEDICINES FOR TREATMENT OF INFLAMMATORY DISEASES OF THE MUSCULOSKELETAL SYSTEM

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Introduction. Over the past decades, the number of inflammatory diseases of the locomotor system has increased: rheumatoid arthritis (RA); arthrosis, degenerative diseases of the joints. RA is a chronic systemic disease of the connective tissue with progressive symmetrical erosive-destructive lesions, mainly peripheral joints and characteristic beyond the articular manifestations. RA is the most common form of inflammatory disease of the joints of RA recorded in all countries of the world with a frequency of 0.6 to 1.3%, more often women are ill than men. The incidence of the disease increases with age: in the age group from 45 to 54 years it makes up 0.86 %, in the group from 55 to 64 years -1.23 %, among people aged 65 and older, up to 0.90 %.

Aim: To perform information search, analysis of modern scientific literature data, to investigate the range of medicines for the treatment of inflammatory diseases of the musculoskeletal system.

Materials and methods. In the course of the study, information search was carried out in a definite direction according to the literature, the range of medicinal products for the treatment of locomotor apparatus of domestic and foreign production was studied.

Results and discussion. Among the AFIs, non-steroidal anti-inflammatory drugs (NSAIDs) that use anti-inflammatory, anti-rheumatic, analgesic and antipyretic effects are the most frequently used for treatment of RA. For the treatment of RA, various forms of medicine are used: ointments, gels (Driplif, Nimard, Orthorcol, etc.), rectal suppositories, ointments with NSAIDs (Ketonal, Remoxics, Inflammation, etc.); injection solutions, tablets. We are used to treat RA in the form of an extemporal ointment. Analysis of literature data showed that the main role in the ointment plays the AFI and the base. The base is not only an indifferent carrier, but an active component in the pharmacodynamics of the ointment, it should provide maximum therapeutic effect. The choice of ointment base depends on physical and chemical properties of the prescribed medicinal substances and the nature of the ointment.

Conclusions. The study of the range of medicinal substances for the treatment of inflammatory diseases of the musculoskeletal system has been carried out. It has been shown that ointments and gels are widely used for treatment of RA. As active ingredients, substances from the group of NSAIDs that have anti-inflammatory, anti-rheumatic, analgesic and antipyretic effects are used.

PHARMACEUTICAL DEVELOPMENT OF TABLETS CONTAINING CHOLINE ALFOSCERATE FOR THE TREATMENT OF COGNITIVE DISORDERS

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Introduction. Choline alfoscerate is acetylcholine precursor that has been shown to be effective in the treatment of cognitive disorders including dementia and Alzheimer's disease.

Several medicines with choline alfoscerate for oral use were represented in the pharmaceutical market of our country: Gliatilin, Cerepro, Cereton, Holitilin and Gliaton. Choline alfoscerate for oral administration is used in medical practice only in the form of capsules.

Aim. To develop the composition and technology of film-coated tablets with choline alfoscerate which are stable during storage.

Materials and methods. The physicochemical and technological properties of choline alfoscerate were studied to determine the type and amount of auxiliary ingredients in the tablets. Various formulations of ingredients were tested in various ratios: microcrystalline cellulose, calcium phosphate dibasic anhydrous, silicon dioxide colloidal anhydrous, Plasdone S-630, magnesium stearate, sodium starch glycolate, pregelatinized starch, talc, sodium stearyl fumarate, Neusilin etc. The rational composition of tablets has been found based on the studing physicochemical and technological characteristics of the tablets masses.

Results and discussion. Choline alfoscerate is a hygroscopic substance. It absorbs moisture, turning into a thick liquid when the relative humidity of the air above 35 %. Choline alfoscerate has a low bulk density (0.34±0.06 g/ml) and a low flowability (1.76±0.14 g/sec) due to the anisometric shape of particles. This active pharmaceutical ingredient is characterized by a satisfactory compressibility, but also adhesion to the surface of the press tool. The analysis of these data has been showed the introduction of moisture regulators, glidents, ingredients to improve compressibility of the substance and also anti-adherents require in the tablets.

The technology of choline alfoscerate tablets consists of stages: grinding and sieving the main components, blending, obtaining a humidifier, obtaining wet granules and drying, dusting, compression, film coating of the tablets, and packaging.

Conclusions. The obtained film coated tablets of choline alfoscerate 400 mg satisfy the requirements of the State Pharmacopoeia of Ukraine according to all indicators.

RESEARCHES ON THE CHOICE OF PRESERVING AGENT FOR ORAL SUSPENSION WITH SILICON DIOXIDE

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Introduction. One of the main conditions for the development of medicines is to ensure their minimum microbial contamination. As you know, all medicines from a microbiological point of view are divided into two groups: sterile (injections, ophthalmic) and non-sterile (syrups, aqueous suspensions, infusions, emulsions). It should be noted that the main source of microbial contamination of medicinal forms is the raw material, including auxiliary substances, especially of natural origin, which are used in significant amounts as flavors and thickeners. Some auxiliary substances can be as a contamination factor (sucrose, sodium alginate, gelatose). Water, as a solvent, is also a good environment for the development of microorganisms. The most common way to reduce the microbial contamination of dosage forms is the introduction of preserving agents into their composition. A preservative must answer such requirements: to have a wide spectrum of action; to be effective against microorganisms that takes place in this case; to influence on toxin-forming microorganisms and to slow their formation; to remain in medicine during all expiration date; to be simple, not expensive and not change organoleptic properties of medicine; to be licensed for application in pharmacy; to be in compliance with national and international standards and requirements.

Aim. The aim of our work was a comparative researches of the antimicrobial activity of preserving agents for the oral suspension with silicon dioxide.

Materials and methods. The introduction of preservative in the composition of the oral suspension is caused by the appearance of mold while storage at the room temperature. Sorbic acid, nipagin, nipazol and benzoic acid are chosen as preservatives. They are widely used for this purpose in the pharmaceutical industry. The antimicrobial activity of preservatives included in the suspension in different concentrations was determined in relation to testing cultures of microorganisms *E.Coli*, *S.aureus*, *P.aeruginosa* and *Candida albicans*.

Results and discussion. According to the results of microbiological researches, sorbic acid was selected as a preserving agent in an amount of 0.1% after 24 hours ensured the complete absence of microbial growth in the medicine and did not affect the sorption activity of the suspension.