THE GROUNDING AND CHOOSIND OF THE COMPOSITION SUBSTANCES BY DEVELOPMENT OF SEMI-SOLID PHARMACEUTICAL DOSAGE FORM

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Introduction. When creating various medical forms it is necessary to take into account the nature of the interaction between the auxiliary and pharmaceutical substances, which may be different and depends on many factors. But the main requirement for ancillary substances is their pharmacological indifference. In the development of soft dosage forms (ointments, liniments, gels, patches), in order to improve the quality and efficiency, special attention is paid to the rational choice of the carrier, that is, the ointment basis. The use of certain components affects the technology of preparation, the degree of release of active substances and the stability of storage.

Aim. The purpose of the work is to determine the main classes of auxiliary substances for the production of soft drugs.

Materials and methods. Object – semi-solid pharmaceutical dosage form, excipients. Methods – pharmaceutical technology.

Results. In general, auxiliary substances in the technology of soft drugs are called substances that form the ointment carrier or give it some or other properties. This is a large group of substances of natural, semi-synthetic, synthetic origin, to which according of the State Pharmacopoeia of Ukraine (2nd edition) include: soft carrier bases; substances that increase the melting point; hydrophobic and hydrophilic solvents; emulsifiers of the first and second kind; gel formers; antimicrobial preservatives and others. All classes of substances can perform in the form of a complex of functions, and also play the role of softening and moisturizing additives.

Recently, the acute substances that contribute to the penetration of active ingredients into the body, in the first place, are essential oils, alcohols, surface-active compounds, dimethylsulfoxide. Also, in the development of soft dosage forms, important compounds that prolong the therapeutic effect (polyvinylpyrrolidone, polyvinylalcohol).

Of great importance is the osmotic effect of ointments, the achievement of the necessary occurs due to the use of ointment basis of a number of auxiliary substances: polyethylene glycols of different degrees of polymerization, propylene glycol, glycerol or a combination thereof.

In the analysis of soft materials there is a tendency to use ointment bases with a high content of the aqueous phase, which, by type of disperse system, are the first kind of emulsions (oil/water). The latter are very commonly used in the creation of local anti-inflammatory and reparative drugs. Emulsion bases provide an opportunity to introduce into the ointment as hydrophilic, and lipophilic biologically active substances. The oil phase of the bases are substances of plant or animal origin, which have a certain influence on the stability of emulsion systems, and also determine the consumer and functional properties of the soft medicinal product.

Emulsions prevent the irritating effect of drugs on the skin and mucous membranes, provide a cooling effect and a moisturizing effect. But emulsion systems, such as oil / water, are a good environment for the development of microorganisms. The high level of the microbiological contamination is significant danger for remedy stability as well as for people health. In order to achieve the microbial purity of non-sterile medicinal products, two main directions are observed: all stages of production under Good Manufacturing Practice (GMP) requirements or the administration of antimicrobial agents.

In the technology of soft drugs widely used acrylic polymers, many of which are called "Carbomer", introduced in foreign pharmacopoeias. The use of carbomers in world pharmaceutical practice tends to increase due to the valuable properties of the gels formed by them, as well as their low cost in comparison with other auxiliary substances used in the production of ointment bases.

Conclusions. It is proved that in modern soft technology, many auxiliary substances are used, through which it is possible to regulate the properties of the drugs being developed.