

Prospects for the development of a cosmetic product based on *Melilótus officinális*

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In recent years, more and more attention has been paid to the problem of scientific development of medical cosmetology products. This problem is also relevant for pharmaceutical science, since in a few cases the composition of the developed medical and cosmetic products includes additives with biologically active substances from plants. The main manufacturers of phytopreparations are specialized pharmaceutical companies that have the necessary conditions for this. Phyto-supplements with antimicrobial, anti-inflammatory and wound-healing properties are most in demand in the production of medicinal cosmetics. The source of such phyto-supplements can be attributed to the herb of *Melilótus officinális*, which has the listed properties, mainly due to the content of flavonoids and coumarins.

Another topical issue for pharmacy is the development of modern types of cosmetic forms. Currently, the most popular dosage forms are ointments. Hydrophilic synthetic polymers are most often used as bases - shapers in the composition of ointments, which require considering their properties when solving the issue of compatibility with introduced phyto-supplements.

Phytopreparations are obtained by extracting plant materials with water-ethanol solutions without removing the used extractant from the final product. At the same time, for the introduction of alcohol-water extracts into the composition of ointments, preliminary removal of the extractant is necessary to obtain a concentrate of biologically active substances. Getting phyto-supplements in a "dry" form is also impractical, since in this case there is a technological complexity of the introduction and uniform distribution of biologically active substances in a cosmetic product. One of the ways to solve the problem of developing phytopreparations for their subsequent introduction into medical and cosmetic products could be the use of various glycols and their mixtures with water for extracting biologically active substances from plant raw materials. The most accessible and produced in large quantities are polyethylene oxide-400 (PEO-400) and propylene glycol-1,2 (PG-1,2). Studies to determine the possibility of using PEO-400 and PG-1,2 as extractants are also important because the phytopreparations obtained with their help will be easily incorporated into the composition of cosmetic ointments with hydrophilic polymer bases. In this case, glycol extracts, in addition to the function of an active ingredient, can play the role of a former in a cosmetic product being developed.

Thus, studies on the possibility of using PEO-400 and PG-1,2 for the extraction of biologically active substances from *Melilótus officinális*, the development of the composition and technology of antimicrobial ointment containing a glycolic extract from this plant raw material, are relevant for pharmaceutical science.

On the development of a phytopreparation for the treatment of varicose veins

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Disorders of microcirculation, which provides nutrition for cells, metabolism in the extracellular space, lead to the development of capillaropathies - an increase in the permeability and fragility of capillaries, a decrease of their stability, and a violation of metabolic processes. As a result, capillary hemorrhages, hematomas, then chronic venous insufficiency and varicose veins occur. For the treatment of these circulatory disorders, angioprotectors (capillary protectors, venotonics) are used - agents that stimulate metabolic processes in the walls of blood vessels, strengthen the wall, improve microcirculation and reduce edema.

An important role in the prevention and complex therapy of peripheral vascular diseases is played by external therapy using products containing phytocomponents, and in many cases of varicose veins it is the only effective and safe direction of treatment. For the treatment and prevention of chronic venous insufficiency, drugs are used, which include extracts of horse chestnut, red grape leaves, gingo biloba, witch hazel, green tea and other plants containing flavonoids, coumarins, saponins, tannins, salicylates. According to the literature, the use of total extraction preparations is in many cases more effective than the use of individual natural substances - saponins, flavonoids.

The meadowsweet (*Filipéndula ulmaria* (L.)) is one of the perennial medicinal plants that have long been used in folk and scientific medicine and have a wide spectrum of pharmacological action. The influence of meadowsweet on the body is determined by the predominant action of polyphenols - tannins, phenol carboxylic acids (caffeic, ellagic), flavonoids (hyperoside, avicularin, quercetin dipentoside), as well as essential oil components (methyl salicylate, ethyl benzoate, salicylic aldehyde). In official medicine, extracts of meadowsweet are used as an anti-inflammatory, wound-healing, antiseptic. To date, there are practically no official medicinal preparations of meadowsweet, despite the fact that the composition of raw materials has been sufficiently studied and the domestic