

DEVELOPMENT OF METHOD FOR QUANTITATIVE DETERMINATION OF FLAVONOIDS IN THE RESEARCH OF BIOAVAILABILITY PROCESS OF WITH POWDER ROOT OF SCUTELLARIA BAICALENSIS

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Introduction. *Scutellaria Baicalensis* – a perennial herb of the family Lamiaceae, whose roots and rhizomes contain 4-4.5% of flavonoids: baicalin, baicalein (trioxiflavon), wogonin (deoxy-metoksiflavon), up to 2.5% pyrocatechols, resins, starch and tannins. *Scutellaria* has hypotensive, sedative, tonic, antispasmodic, anticonvulsant effects. Also it has anti-inflammatory, antithrombotic, antiallergic, exhibits antiviral and antibacterial activity. However, it is known that flavonoids have poor solubility in both water and lipid results in low absorption on oral administration.

Aim. On the department of Industrial Technology of Drugs as part of the doctoral thesis Slipchenko G. N. developing a new dosage form – capsules with powder rhizomes and roots *Scutellaria baicalensis*. Evaluation of the bioavailability is one of the important stages in the process of development and improvement of technology of medicinal forms. Solubility of drugs is their most important characteristic. Other things being equal, it is largely characterized by the pharmacological activity of drugs and used for non-experimental prediction of bioavailability. It is planned study of *Scutellaria* flavonoids solubility in 0.1 M hydrochloric acid, which simulates the acidic intestinal environment and in biorevalent environments. Biorevalent medium is the dissolution medium, as close as possible to the internal fluids of the human body (digestive and gastric juices) on the chemical composition and physico-chemical properties (pH, osmolarity, buffering capacity, surface tension). Use of such media allows approximating the results of in vitro tests to in vivo performance and extending the range of studies involving dissolution of a drug.

Results and discussion. During the test “Dissolution” in contrast to conventional buffer solutions using biorevalent media may simulate the effect of food intake on the rate and completeness of drug dissolution. Moreover, the use of these media for products related to the 2 and 4 classes of biopharmaceutical classification system, clearly demonstrated similar correlations in vitro dissolution profiles and pharmacokinetic curves in vivo.

In the course of work to develop a methodology for determining the concentration of bioflavonoids in the solution based on the spectral characteristics of baicalin extract studied and a model compound – bioflavonoid baicalin selected analytical absorption maximum absorbance defined boundaries of subordination of its solutions Bouguer-Lambert-Beer.

Conclusions. The results of these studies will be used in the development of optimal technology of the new medicinal form.