

**PROSPECTS FOR THE USE OF TEXTURE ANALYSIS
IN THE DEVELOPMENT OF SEMI-SOLID DOSAGE FORMS**

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Introduction. Texture analysis is the study of the structural and mechanical properties of samples by testing their compression or tension.

Texture analysis allows obtaining information about the structural and mechanical properties of the objects. Knowledge of these properties allows the technologist to control the production process in order to obtain products with the required characteristics and to make recommendations on the use of these products for certain purposes and solving specific problems.

Such classical structural and mechanical properties as hardness, flowability, cohesion, adhesion, elongation, forward and reverse extrusion, flowability and compression of powders give almost complete representation of the sample in terms of structural and mechanical properties.

The measured indicators are empirical and are not regulated by any standards (with rare exceptions).

The purpose of the work was the pharmaceutical development of the basis of the gel complex action for the treatment of mastopathy.

Consideration was given to the use as gelling agents of hydroxyethyl cellulose and carbopol. The obtained samples of gel based on carbopol had less satisfactory organoleptic properties than the samples of the GEC gel in terms of transparency and uniformity. For the final selection of the optimum gel-forming agent, the texture of the obtained gels was studied.

Materials and methods. The texture analysis of the developed experimental samples of HPP and carbopol gels was performed at the Department of Pharmacy Technology of Medicines and Social Pharmacy of the Lithuanian University of Health Sciences using TA.XT.plus (Stable Micro Systems Ltd, Godalming, Surrey, UK). Using the computer program Exponent, the texture parameters were measured: the deformation force of the sample, (maximum force), and the shear stress (area under the curve). A cone-shaped probe was used for the experiment. Selected parameters: depth 15 mm, speed 3.0 mm/ s. Each test was repeated 3 times, found the mean, and the standard deviation was calculated.

Results. For further research we have previously selected a gel with a concentration of HPP in the amount of 2 %.

Conclusion. Based on the research, the type of gel-forming agent and its concentration were selected for further steps in the pharmaceutical development of combination gel for the treatment of mastopathy.