

THE NEUTRON ACTIVATION ANALYSIS IN INVESTIGATION OF THE MICROELEMENT CONTENT OF INTERVERTEBRAL DISC

Purpose: Evaluation The progressive prevalence, significant economic losses, the cost of compulsory health insurance and high-tech medical care have turned the problem of lumbar osteochondrosis into a socially significant issue. The relevance of this problem is dictated by the need to study the etiopathogenesis of the course of degenerative changes for an integrated approach when choosing an adequate treatment.

The progression of the pathological process in the spine significantly contributes to changes in the metabolism of connective tissue, which is closely associated with the violation of microelements.

of changes in the homeostasis of the intervertebral disc, in particular the study of the microelement composition of the intervertebral disc at various stages of development of hernias of the lumbar spine using instrumental neutron activation analysis.

Material and methods: The studied biomaterial was obtained intraoperatively, with traditional microdiscectomy in herniations of the spine at the level of VL3-4, VL4-5, VL5-S1. By the method of instrumental neutron activation analysis, a study of biomaterials, represented by tissue fragments of the remote part of the hernia of the intervertebral disc, located at different stages of the degenerative process, was carried out.

Results: The quantitative content of 22 macro- and microelements in the removed fragments was determined. As a result of the data obtained, it was found that in the tissues of the intervertebral discs, a gradual change in the content of a number of essential elements occurs, depending on the stage of development of the degeneration process.

Conclusion: Changes in the microelement composition indicate metabolic processes occurring in the intervertebral discs, and the relationship of the microelement composition of the disc tissue and the course of the degenerative process can be used to predict the condition of the patient and choose an adequate treatment.

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