

EFFECT OF CHITOSAN DERIVATE ON THE COMPOSITION OF MICROFLORA OF THE LARGE INTESTINE IN EXPERIMENTAL DISBIOSIS

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Normal microflora of the human body has leading role in human adaptation to environmental conditions. Damage of the normal flora function is called disbiosis and causes various negative effects. In practice, eubiotics are mostly used for correction of the disbiotic processes. However, their use raises a number of obstacles that often nullify the therapy. Therefore, the search for new drugs to correct disbiotic processes is an actual problem.

The aim of our study was to examine the influence of chitosan derivatives on the composition of microflora of the large intestine and to establish the nature of morphological changes of the large intestine under artificial dysbiosis caused by the introduction of fungal-bacterial mixtures to immunosuppressed rats.

Materials and methods. Experiments were conducted on 15 white laboratory rats. To create the experimental animals were carried out dysbiosis cyclophosphamide immunosuppression. Exogenous microbial load was carried by introduction of suspension *Staphylococcus aureus* and *Candida albicans* to the esophagus within 3 days. Following treatment of animals held for 7 days. Studies of intestinal microflora was carried out by standard methods.

Results and discussion: The use of chitosan derivate to correct dysbiosis in rats resulted in complete elimination of intestinal fungi of the genus *Candida* on the sixth day and significant reduction in the number of staphylococci on the seventh day of the experiment. Feature of the microflora of the large intestine of this group of animals was the absence of pathogenic *Klebsiella* and *Proteus*, as well as the *Escherichia*, unlike the control group. Chitosan derivate was active only in the gut and did not prevent migration of microorganisms to other organs, but contributed to more rapid elimination of both from the intestine and other organs. The results of histological examination of the intestine of rats treated with chitosan derivate, showed that the intestinal lesion structures in this group was significantly lower compared with the control group, and recovery took place faster.

Conclusion: The results of bacteriological and histological studies show the effectiveness of derivate of the chitosan as drug for correction of intestine microflora.