

**BIOLOGICAL ACTIVITIES OF COLLAGEN BASED
BIOPOLYMERS****N.T.Muydinov**

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Abstract. In the article, collagen-derived film showed 26.7% absorption at week 3, collagen/Na-KMTs 8/2 ratio film absorbed 16.6%, collagen/Na-KMTs 7/3 film complete absorption, collagen/Na-KMTs 6/4 ratio film 1 was completely absorbed in the chi week and was found to be poorly physicommechanically.

Key words: collagen, polysaccharide, film, material, biopolymer.

It has been found that preparations based on natural collagen and polysaccharides exhibit high biological activity when they are widely used as materials that prevent tissue adhesion and heal wounds [1, 2]. Currently, agents that prevent tissue adhesion are obtained from biopolymers (dextran solution, hyaluronic acid, KMC, collagen) in the form of gel, membrane and film. Because such biopolymers are widely used in the production of anti-adhesion materials due to their biocompatibility, non-toxicity, biodegradability, hemostasis and viscosity.

In this study, for the first time, the bioabsorption of biopolymer films obtained on the basis of collagen, collagen/Na-KMC compositions, which have preserved their natural structure, was studied.

Biomaterials based on collagen exhibit high biodegradability in the body. Determination of bioabsorption of film samples is important in determining their anti-adhesion biological activity. According to the results of the experiment, the film obtained from collagen was absorbed by 26.7% in the 3rd week, the collagen/Na-KMC ratio 8/2 film was absorbed by 16.6%, the collagen/Na-KMC 7/3 film was completely absorbed, the collagen/Na-KMC ratio was 6/4. the film was completely absorbed by the 1st week and was found to be physically and mechanically poor. Taking into account that the film is preserved in the injured area during the healing process for 3 weeks, it was determined that the film obtained in the ratio of collagen/Na-KMC 7/3 is the optimal composition.

The results of the pharmacotoxicological studies of the films revealed that the films implanted in the living organism are biocompatible, have no side effects,

and are completely absorbed in the living organism for 15-20 days, depending on the thickness of the film.

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