

Sorption properties of suspension ointment with incorporated natural anionic polysaccharides

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Abstract

Currently, there is a change in methodologies in the treatment of wounds, as a result of which the share of surgical interventions is reduced and new methods of wound care are introduced using dressings and sorption-application therapy of a new generation. The obtained experimental data on the dissolution of the standard hydrophilic ointment base and the commercial ointment Levomekol® in the Ringer-Locke model solution indicate that in real conditions, the ointment will most likely easily dissolve in physiological fluids, quickly absorb and promote the adhesion of the dressing to the wound. The sorption properties of both individual anionic polysaccharides and their mixtures in various ratios in a Ringer-Locke model solution containing the main exudate cations (Na⁺, K⁺, Ca²⁺) were studied in order to assess the prospects of their use as a solid phase in the development of a suspension ointment with sorption properties. This publication presents the results of the behavior of a suspension ointment with anionic hydrocolloids and a commercial ointment Levomekol® in a Ringer-Locke model solution. It is shown that a mixture of sodium alginate and Kappa-carrageenan in a ratio of 1:2 in the developed suspension ointment retained a significant amount of the model solution (24.5 g/g) in its volume for 24 hours. Increasing the sorption capacity of hydrophilic ointments based on PEO will allow you to Sorb excess exudate, create a microclimate to accelerate healing processes, and reduce tissue trauma when removing the dressing.

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