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THE EFFECT OF THE MEDICINAL COMPOSITION "EFLORNITHINE-ARMENICUM" ON THE PROGRESSION OF THE INFLAMMATORY PROCESS IN AN EXPERIMENTALLY INDUCED AEROBIC WOUND

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Abstract

Wound infection remains one of the most serious current challenges in modern medicine. Significant challenges in the symptomatic and pathogenetic therapy of wound infections arise due to the known symbiosis between pathogenic and opportunistic bacteria and certain pathogenic and opportunistic fungi. The mixed bacterial-fungal microflora persisting during a wound infection is often described as a biofilm. Notably, the addition of a fungal infection significantly worsens the wound healing process: on one hand, fungi that persist in the host's wound are inherently toxic; on the other, their association with bacteria often enhances the pathogenic potential of the bacteria.

The therapeutic efficacy of the medicinal composition Eflornithine-Armenicum was studied using an experimentally induced aerobic wound model. This medicinal composition was developed at the Research Center of the Yerevan State Medical University in collaboration with Arpimed LLC.

A wide range of morphological, morphometric, cytological, bacteriostatic, and immunomorphological studies were conducted. It was found that three applications of the composition to the wound surface on the skin of experimental rats led to an early activation of reparative and proliferative processes, ultimately resulting in complete restoration of the integrity of the damaged wound tissues through substitution.

The therapeutic effectiveness of the tested medicinal composition is, on one hand, due to the pronounced antibacterial activity of Eflornithine, which facilitated the early self-cleansing of the wound from opportunistic and pathogenic microorganisms persisting in situ. On the other hand, the effectiveness is attributed to the strong anti-inflammatory activity of Armenicum paste, thanks to the presence of ionized iodine in its composition.

Based on our studies, we believe there are broad prospects for further preclinical and clinical research on Eflornithine-Armenicum as an effective therapeutic agent for the pathogenetic treatment of wound inflammation.

Based on our comprehensive studies, we conclude that the medicinal composition Eflornithine-Armenicum, which we developed, should be considered an effective therapeutic agent in the treatment of aerobic wounds. This is particularly important, as both components of the composition have long been approved by prestigious pharmaceutical regulatory bodies as medicinal products with confirmed effectiveness and safety.

Keywords: *aerobic wound, wound infections, medicinal composition "Eflornithine-Armenicum, treatment.*

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