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FEATURES OF THE INTERFERON INDUCTOR – CELAGRIP

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Abstract

Inflammation is the main pathogenetic component of many diseases of various etiologies and one of the most important problems of general pathology and clinical practice. It is a universal response of the body to the effects of various exogenous and endogenous damaging factors, which include pathogens of bacterial, viral and parasitic infections, as well as allergens, physical and chemical stimuli. They cause both local and general reactions.Inflammation, in turn, is a complex process regulated by many endogenous substances. The latter are produced by various cellular elements involved in inflammation (mast cells, polymorphonuclear leukocytes, monocytes, macrophages, endothelial cells, thrombocytes). They secrete such biologically active substances as prosthanoids, leukotrienes, NO, platelet-activating factor (PAF), histamine, some interleukins, etc. Therefore, the possibilities of pharmacological regulation of inflammation are quite diverse. Usually they come down to suppressing the production and release of substances that stimulate the inflammation process.(Kharkevich D.A., 2008).

Introduction

For these purposes, along with physical methods of treatment, medications that have anti-inflammatory activity are used.

However, it should be noted that the use of anti-inflammatory drugs does not always provide a therapeutic effect, moreover, they quite often cause side effects and severe complications, which largely limit their successful use in the clinic. Therefore, the creation of a new generation of safe and highly effective drugs for the treatment of inflammatory processes remains an urgent task of medicine.

Among such drugs, a special place is given to interferons and interferon inducers of polymeric structure. According to literary data, interferon inducers stimulate peripheral blood neutrophils, increasing their anti-inflammatory potential and the ability to generate active forms of oxygen, thereby increasing the bactericidal properties of blood, which is especially important in widespread mixed infections.

Modern clinics have a significant number of anti-infective agents. However, many of these drugs do not meet the requirements of infectious disease specialists, since they cause, along with the main effect, a number of undesirable effects and formidable complications. Inflammation is one of the most common typical pathological processes that accompanies the course or forms the basis of a very large number of various diseases: from acute respiratory infections to severe chronic osteoarthritis. With viral infections, immunological resistance decreases, the functional activity of various links of the immune system is suppressed, many chronic diseases are exacerbated and secondary bacterial complications arise, which makes the problem of treatment and prevention of these infections especially important and relevant. With the discovery of INF inducers, new prospects and opportunities have appeared in the treatment and prevention of many viral and non-viral diseases.

The interferon inducer "Celagrip", obtained from natural plant raw materials, has a pronounced normalizing effect on the functional indicators of the interferon system. As well as good tolerability, the absence of side effects indicate the possibility of wide use of drugs in clinical practice.

Therefore, the creation of a new generation of safe, highly effective drugs for the treatment of viral processes remains an urgent task of medicine. Among such drugs, a special place is given to interferons and interferon inducers of a polymeric structure. The interferon inducer – "Celagrip", obtained from natural plant materials, has a pronounced normalizing effect on the functional indicators of the interferon system. As well as good tolerability, the absence of side effects indicate the possibility of widespread use of drugs in clinical practice. However, the issues of the anti-inflammatory action of "Celagrip" remain unexplored to this day.

Object. To study the anti-inflammatory activity of "Celagrip".

Materials and Methods

The experiments were conducted on white rats of both sexes born in the vivarium of the institute. To study the antiviral activity of "Celagrip", classical models of experimental arthritis will be used, which will be caused by solutions of various phylogogenic agents in the following concentrations: formalin (2%), carrageenan (1%), dextran (6%). The solutions will be administered subplantary in an amount of 0.04 ml. The test drug will be used 1 hour before the introduction of irritants. The paw volume will be measured using a water plethysmometer before the injection of the phlogogenic agent and every 30 minutes during the first 6 hours, and then after 6 and 24 hours from the beginning of the experiment. The anti-inflammatory activity of the drug was judged by the difference in paw volume before the start of the experiments and at the time of maximum edema development.

Results of the Study

The use of drugs as an interferon inducer in various viral infections has been shown in various cellular and animal models, and the drug, as a result of many years of research, has undergone the necessary list of regulated preclinical studies, which served as the basis for conducting its clinical trials. The results obtained in preclinical studies showed the greatest potential for clinical use of "Celagrip" in viral infections.

Thus, it can be assumed that the anti-inflammatory direction of cytokines induced by "Celagrip" apparently contributes to a more rapid activation of non-specific mechanisms that disrupt the reproduction of viruses, and subsequently specific mechanisms for the elimination of viral infection.

Conclusions

The obtained results can serve as a basis for developing optimal dosage regimens for "Celagrip" taking into account its antiviral action, which will improve the effectiveness of pharmacotherapy for viral infections.

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