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STUDY OF ANTI-INFLAMMATORY ACTIVITY OF ALTABOR SUBSTANCES

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Introduction. The inflammatory process is considered to be one of the evidenced causes in pathogenesis of prostate disease. The essential requirement for new products with prostprotoprotective effect is suppression of inflammation.

The aim of the work. Carrageenan and zymosan models of rats foot edema were used to study the anti-inflammatory effect of altabor substance. This substance was used in a conditionally therapeutic dose of 50 mg/kg, established in previous studies as effective in terms of membrane-stabilizing activity. A standard anti-inflammatory agent – diclofenac sodium in dose 8 mg/kg (ED50) was chosen as a comparison drug in both series of studies. The altabor substance in the dose of 50 mg/kg has already managed to reduce the anti-inflammatory activity at 34% during the first monitoring period (1-a-hour), significantly reducing the volume of the stuffing in the research gaps concerning the control pathology. At the 2-hour experiment, the expression of the anti-exudative effect of altabor has noticeably decreased. However, since 3-rd hour and in the following terms of surveillance, the investigational influence on the development of inflammation has again become reliable in comparison to the control pathology.

Materials and methods. The comparison drug of synthetic origin - diclofenac sodium - showed significant, anti-exudative activity during all periods of observation. The maximum effect was observed at the 3rd hour of the experiment, which corresponds to the time of release of prostaglandins (PG) during acute inflammation and confirms the anticyclooxygenase activity of the drug. Thus, the substance of altabor in the dose of 50 mg/kg is characterized by a moderate anti-inflammatory action, which is found in the exudation phase. According to the antiexudative effect, the original plant substance is inferior to diclofenac sodium in the dose of 8 mg/kg - one of the most active synthetic non-steroid anti-inflammatory drugs, which is very widely used in medical practice.

Results. Increase of the swelling is observed after 30 minutes and until the end of the investigation, after giving the fligogenic agent to animals of the control pathology group. The substance of altabor in dose of 50 mg/kg caused the most striking antiexudative action (42%) during 1 hour from the beginning of the experiment. This was evidenced by a significant decrease in the swelling of the limbs of the experimental group animals in comparison with the control pathology - 11.00 ± 0.96 mm as compared to 18.83 ± 1.02 mm. During the second hour of the experiment, the anti-exudative activity of altabor decreased slightly and its severity lost its clear character compared to the untreated control. At the end of the investigation (for 3 hour of observation) the altabor once again showed the ability to suppress the swelling – 15,50±2,16 as compared to 24,00±2,61 mm in the control, which coincides with the nature of its influence.

The drug diclofenac sodium has shown the greatest activity on 2 and 3 hours of experiment (35 and 37%, respectively), which is caused by the known mechanism of its action, directed on suppression of activity of cyclooxygenase-1 and reduction of synthesis of proinflammatory prostaglandins. The substance BW-755C probably reduced edema in all terms of the experiment by an average of 46%. It is known that the mechanism of the anti-inflammatory action of this pharmacological agent is caused by its ability to suppress 5-lipoxygenase and formation of leukritianias, which provides a clear antiexudative action on the chosen model.

Conclusions. On the basis of the obtained results, it can be concluded that the anti-inflammatory activity of the altabor substance in the dose of 50 mg/kg is most clearly manifested in the acute phase of inflammation and is realized mainly due to the inhibitory effect on lipoxygenase.