

INVESTIGATION OF POLYPHENOL CONCENTRATE FROM GRAPE SEEDS ANTI-INFLAMMATORY EFFECT

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Introduction. Biologically active derivatives of arachidonic acid play the leading role in the exudation development. There are two alternative ways of transformation of arachidonic acid from the phospholipids of cell membranes for bioactive compounds: cyclooxygenase way the formation of prostaglandins (PG) and lipoxygenase way of formation of leukotrienes (LT) with the participation LOG. Drugs that are composed of phenolic compounds inhibited the LOG.

Aim. The aim was to establish the ability the polyphenol concentrate from Grape seeds to suppress the activity of key enzymes of transformation of arachidonic acid.

Materials and methods. We used a zymosan edema model, the mechanism of development of which is the formation of LT (0.5 hour) and PG (3 hours). As the comparison drugs were selected diclofenac sodium, which is a nonspecific inhibitor of COG, and quercetin – drug polyphenol of nature.

Results and their discussion. Administration of zymosan leads to the edema development in the control group of animals after 0.5 hours and 3 hours. Preliminary administration to animals concentrate from Grape seeds inhibited the growth of zymosan edema in all studied periods. So, after 0.5 hours in rats that were treated with a concentrate of Grape seed swelling was significantly lower in 2 times than the control group pathology. After 3 hours, concentrate from Grape seeds significantly reduced the swelling in 1,4 times in comparison with the control group. High anti exudative activity of the investigated extract in these terms suggests that in the early stages of development of the inflammatory reaction it actively suppresses the formation of LT, 3 hours - moderates PG. The reference drug diclofenac sodium showed in the experiment characteristic anti-inflammatory effect. The highest activity was observed 3 hours after the administration of zymosan, which is probably related to its ability to suppress the synthesis of PG.

Conclusions. Thus, the data indicate a high antiexudative activity of the concentrate from Grape seeds. The ability of extract to inhibit effectively the development zymosan swelling in the early stages, perhaps due to the action of phenolic compounds, which are part of it. The effect of concentrate from Grape to reduce edema 3 hours after administration of inflammation allows to make the conclusion about the presence of his moderate anti cyclogenase activity.