

INVESTIGATION OF THE PRUNUS DOMESTICA LEAVES EXTRACTS MEMBRANE STABILIZING ACTIVITY

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Introduction. One of the actual problems of modern pharmacological is the creation of new, most effective drugs for the treatment of hepatobiliary system diseases. Promising groups of substances are natural polyphenols. Since the polyphenolic compounds exhibit a wide range of pharmacological activity and are actively involved in the regulation of oxidative balance in humans and animals. Prunus domestica is widely used in folk medicine. It is important that Prunus domestica has a large number of varieties and is widely distributed in the Ukraine. At the Department of the Chemistry of Natural Compounds NUPh a extract of the Plum leaves is obtained and its chemical composition is studied.

Aim. For the first time, the membrane-stabilizing activity of the extract from the Prunus domestica leaves was experimentally studied.

Materials and methods. The object of our research was the substance of a dry extract obtained from the leaves of Prunus domestica, obtained from the Department of the Chemistry of Natural Compounds of the NUPh. The substance includes polyphenolic compounds: phenolic carboxylic acids, oxystilbene derivatives, coumarins, flavones, flavonols, flavanones, isoflavonoids and their derivatives. The membrane-stabilizing activity of the extract was studied by the F.C. Jager method. For 3 days, the extract was administrated to rats intragastrically at a dose 25 mg/kg, the most effective for antioxidant activity, and the reference preparation silibor at a dose of 25 mg/kg. Blood was collected from the tail vein and the degree of hemolysis of the erythrocytes was determined.

Results and discussion. It was found that the extract from the Prunus domestica leaves significantly reduced the degree of spontaneous hemolysis of red blood cells. Administration of the extract to the animals resulted in a decrease in this index, in comparison with the control group by 50.3%. Membrane stabilizing effect of the extract from the Prunus domestica leaves was comparable with the activity of the reference preparation Silibor, under the influence of which the degree of hemolysis of erythrocytes decreased by 55.0%.

Conclusions. The administration of the extract from the Prunus domestica leaves is accompanied by a decrease in the manifestations of the cytolytic syndrome, which probably resulted from the inhibition of the peroxide-induced destruction of hepatocyte membranes by the substance studied.