

# **THE STUDY OF INFLUENCE OF BLACK CHOKEBERRY LEAVES EXTRACTS ON THE DEVELOPMENT OF THE PAW OEDEMA, INDUCED BY CARRAGEENIN IN RATS**

Samoilova V.A., Tovchiga O.V., Kovalyov V. N.

The National University of Pharmacy, Kharkiv, Ukraine

vikella@gmail.com

**Introduction.** The growing prevalence of gout and the shortage of antigout agents makes it necessary to develop new herbal drugs with proven efficacy and safety. Fruits of black chokeberry (*Aronia melanocarpa* (Michaux.) Elliot) are widely used in atherosclerosis, arterial hypertension, blood coagulation disorders etc. The leaves of chokeberry are considered a perspective raw material because of the high content of phenolic compounds (catechins, flavonols, phenolcarboxylic acids and others). It has been shown in our previous experiments that water and ethanol extracts from chokeberry leaves counteract hyperuricemia in the experiment; ethanol extract also shows favourable renal effects in hyperuricemia and in intact animals. According to the data available in literature, chokeberry leaves extracts eliminate the disturbances of the peroxidation balance. To complete the pharmacological spectrum of these extracts, it is rational to investigate their influence on the inflammation process that is an important link in gout pathogenesis.

**Objects.** Water and 50% ethanol extracts of the chokeberry leaves were obtained by pharmacopoeial techniques.

The model of the paw oedema induced by carrageenin in rats was used with the measurement of oedema and inhibition percentage calculation. All studies were in accordance with the bioethics requirements. The extracts were administered at the dose 500 mg/kg, which was determined as the effective one in the previous experiments concerning uric acid metabolism. Diclofenac sodium as a classical COX inhibitor, recommended for experimental research, was chosen as the reference drug.

**Results.** It was established that water extract of chokeberry leaves tends to reduce the paw oedema at the periods of inflammatory process not associated with prostaglandins mediatory role. Ethanol extract does not influence on the oedema development, while diclofenac sodium renders a significant anti-exudative effect, and its dynamics is in accordance with the known data about mechanism of action.

**Conclusion.** The results do not confirm the significant anti-inflammatory properties of aronia leaves extracts. The tendency to oedema reduction against the background of water extract may be increased with the dose change. The absence of the significant influence on prostaglandins system may indirectly indicate the absence of the significant ulcerogenic action (similar to classical NSAIDs).