

## HYPOTHENSIVE AND ANTIOXIDANT EFFECTS INDUCED BY POLYPHENOL RICH BLACK CHOKEBERRY (*ARONIA MELANOCARPA* [MICHX.] ELLIOTT) JUICE

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Chokeberry (*Aronia melanocarpa* (Michx.) Elliott) has been traditionally used for centuries in the herbal medicine of the Native North Americans considering the numerous pharmacological activities. The aim of this research was to analyze the effects of the chokeberry juice on the cardiovascular activity, in order to authenticate the use of *Aronia melanocarpa* as a functional food. Nevertheless, the antioxidative properties of chokeberry juice were determined by DPPH method and the  $\beta$ -carotene/linoleic acid model system, to prove the estimated activity of the juice. The significant antioxidative activity was confirmed. The concentration of chokeberry that inhibited 50 % of DPPH free radicals (IC<sub>50</sub>) was  $1.25 \pm 0.08$  mg/ml. In  $\beta$ -carotene/linoleic acid model system IC<sub>50</sub> was achieved by concentration of  $1.73 \pm 0.07$  mg/ml. The effects of chokeberry juice on the blood pressure and heart rate in anaesthetized rabbits were performed. The results demonstrated the reduction of the blood pressure (EC<sub>50</sub> value of  $195.63 \pm 14.45$  mg/kg, the concentration which elicited 50% of maximal response) and heart rate (EC<sub>50</sub> value of  $171.71 \pm 11.21$  mg/kg) in the animals. The administration of the chokeberry juice could produce hypotension and negative chronotropic effects. However, it is necessary to conduct the study in human population to confirm those findings.

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**Key words:** *Aronia melanocarpa* (Michx.) Elliott, chokeberry juice, antioxidant effects, blood pressure, heart rate