



Influence of chokeberry juice on arterial blood pressure and lipid parameters in men with mild hypercholesterolemia

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Abstract:

Aronia melanocarpa is a common plant in Eastern Europe and in the North America. The fruit contains a lot of polyphenols, including anthocyanins, caffeic acid, and its derivatives also present in chokeberry at relatively high concentrations. Anthocyanins have antioxidant and anti-inflammatory properties and, therefore, may be potentially used to prevent oxidative stress, frequently associated with cardiovascular diseases.

The aim of the study was to estimate the influence of anthocyanins contained in chokeberry juice on arterial blood pressure, lipid parameters, inflammatory state parameters and concentrations of antioxidant vitamins in men with mild hypercholesterolemia. Fifty eight healthy men with the diagnosed mild hypercholesterolemia without pharmacological treatment were enrolled to the study in 2006. In all men biochemical measurements were carried out 4 times: at the beginning, after 6 weeks of regular chokeberry juice drinking, after 6 weeks without the juice drinking, then repeated after 6 weeks of chokeberry juice drinking. Laboratory tests included: total, low density lipoprotein (LDL), and high density lipoprotein (HDL) cholesterol and its subfractions: HDL₂ and HDL₃, triglycerides, lipid peroxides (LPO), C-reactive high sensitivity protein (hsCRP), homocysteine, fibrinogen, glucose and antioxidant vitamins.

Regular chokeberry juice drinking resulted in reduction of total cholesterol level ($p < 0.001$) and LDL cholesterol ($p < 0.01$) and triglycerides ($p < 0.001$), and increased HDL₂ cholesterol ($p < 0.001$) level. Moderate but significant decreases in the serum glucose ($p < 0.05$), homocysteine ($p < 0.001$) and fibrinogen ($p < 0.01$) concentrations were also observed. These beneficial metabolic changes were associated with significant hypotensive effect of chokeberry juice drinking. Our studies showed that drinking of *Aronia melanocarpa* fruit juice may have a beneficial effect on reduction of cardiovascular risk.

Key words:

chokeberry juice, serum lipids, cardiovascular risk
