

Morphology

Vasoprotective Properties of Aronia Melanocarpa – a Histological and Morphometric Study

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The social significance of age-related diseases is determined by their global role in mortality and morbidity, particularly in economically developed countries. Changes in elastic and muscular arteries walls, resulting from age-related restructuring and progression of atherosclerotic lesions, underlie coronary heart disease and cerebrovascular disease. Their prevention through administration of natural products is a research area with huge potential, and application of natural antioxidants is one of the leading strategies to retard vascular aging. *Aronia melanocarpa* juice is a rich source of polyphenols and is characterized by very high antioxidant activity *in vitro*. The aim of the current study was to investigate the effect of aronia juice intake on age-related vascular changes of rat aortic walls. We used a model of aging male rats, whose thoracic aorta walls were subjected to macroscopic, histological (hematoxylin-eosin), histochemical (orcein) and morphometric studies. The comparative analysis between the target group of old animals supplemented with aronia juice; young untreated rats and old controls (not supplemented), revealed that aronia-supplemented animals were characterized with reduced atherosclerotic lesions and a lower level of restructuring of aortic walls. These data confirm that *Aronia melanocarpa* juice successfully retards age-related vascular aging, and can be recommended as a prophylactic tool for healthy aging.

Key words: vascular aging, antioxidants, Aronia melanocarpa.