

Alternative/functional medicine: Blueberries show promise in protecting heart

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Blueberries could strengthen blood vessels against oxidative stress that may lead to heart disease, says new research.

The results of the new study, published in the **Journal of Nutritional Biochemistry** (Vol 17, pp 109-116), add to the other reports in the literature linking the berry to lowering cholesterol, and protecting against cancer and neurodegenerative diseases like Alzheimer's.

The scientists, led by Dorothy Klimis-Zacas from the University of Maine, investigated the effects of blueberries on functional and structural molecules in the walls of the rats' aortas.

Over a 13-week period a control group was fed a standard diet, while an intervention group received the standard diet supplemented with eight per cent powdered wild blueberry.

The scientists focused on **glycosaminoglycans (GAGs)**, carbohydrate molecules in the blood vessel walls that are directly or indirectly involved in a variety of functions, including lipoprotein metabolism, blood coagulation, and organization of the extracellular matrix.

"In this study we document for the first time that diets enriched with wild blueberries significantly alter the composition and structure of rat aorta at the glycosaminoglycan level," wrote lead author Anastasia Kalea.

Klimis-Zacas and her research team also found an increased level of a specific GAG called **galactosaminoglycans (GalAGs)**.

"It seems that the increased GalAG content in the blueberry-fed group (plus 67 per cent compared to control) may well be a protective factor," they said.

By maintaining higher levels of GalAGs the blood vessel walls are more resistant to oxidative stress that could lead to cardiovascular disease.

"Our investigation of the potential of natural antioxidants like those found in wild blueberries to combat the precursors to cardiovascular disease is part of a broader research movement to gain a better understanding of the role of diet in disease prevention," said Klimis-Zacas.

The researchers said that identification of the bioactive compounds in the fruit that cause the structural GAG changes is needed to elucidate the specific mechanism of action.

The study has been welcomed by the blueberry industry. Susan Davis, nutrition advisor to the Wild Blueberry Association of North America said that the work expands on the importance of wild blueberries in helping fend off diseases of aging, like cardiovascular disease.

“Dr Klimis-Zacas' work helps build the case for including phytonutrient-rich foods in the diet for good nutrition and disease prevention. Colorful foods like Wild Blueberries should be the cornerstone of a healthy diet,” she said.

Before prescribing treatment, FMU recommends that you follow the standard of care of your profession, as well as confirm the information contained herein with other sources.

Functional medicine embraces the totality of the regulatory functions of the body. It encompasses all of the biophysical, biochemical, enzymatic, endocrine, immunological, and bioenergetic regulatory capacities

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