Stevia Helps Heart Health in Mice by Affecting Insulin Levels


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Cardiovascular diseases, including heart disease and stroke, which are the first and third leading causes of death for both men and women in the United States, account for 1 in 3 of all U.S. deaths. Heart disease and stroke are expected to have cost our healthcare system $473 billion in 2009. If all major types of cardiovascular disease were eliminated, U.S. life expectancy would increase by nearly 7 years (1).

Of the many factors that increase the risk of heart disease, including smoking, high blood pressure, and obesity (defined by the CDC as a Body Mass Index greater than 30 kg/m2 (2)), one of the most significant is diabetes, which now affects 24 million Americans and costs $174 billion per year to treat (3). According to the American Heart Association, nearly 75% of diabetics have some form of blood vessel disease (4). Now a new study in mice (5) has found that stevia, approved by the FDA as a dietary supplement (6) and shown for decades to help control blood sugar levels (7), may help with heart health by affecting levels of insulin, the hormone that helps control blood sugar levels (8).

In the study, 34 mice were given either stevia (10 mg per kilogram of bodyweight per day) or placebo for 12 weeks. The stevia was given to the mice in the form of stevioside dissolved in saline solution. Researchers obtained blood samples from the mice and also obtained heart blood vessel samples from each mouse to examine for the presence of atherosclerosis.

While there were no differences in weight gain or loss seen between the two groups, those in the stevia group had 21% lower cholesterol levels (10.71 vs. 13.52 millimoles/Liter), 20% lower triglyceride levels (2.61 vs. 3.24 mmol/L), 18% lower blood sugar levels (6.73 vs. 8.19 mmol/L), and 35% lower insulin levels (1201 vs. 1831 milli-Units/Liter). What’s more, those in the stevia group had 24% lower levels of an inflammatory protein called IL-6 (13.2 vs. 17.26 picograms/milliliter) whose increased levels have been associated with diabetes (9).

For the researchers, “stevioside treatment was associated with improved insulin signaling and antioxidant defense in both the adipose tissue and the vascular wall of obese insulin-resistant mice” and that these results warrants large-scale studies in humans.”

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Reference:

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