



High Fructose Intake May Raise Blood Pressure

By Kathleen Doheny **WebMD Health News**

Oct. 30, 2009 -- Eating too much of the sweetener fructose, found in sugary soft drinks, bakery goods, and candy, could be driving up your blood pressure, even if your blood pressure is typically healthy, according to a new study.

"High fructose intake is linked to high blood pressure," says researcher Diana Jalal, MD, assistant professor of medicine at the University of Colorado Denver Health Sciences Center in Aurora, Colo., citing the results of her study, presented this week at the annual meeting of the American Society of Nephrology in San Diego.

About 2.5 sugary soft drinks a day is enough to elevate the pressure, Jalal's team found.

While previous researchers have linked the consumption of sugary soft drinks and high blood pressure in teens, she says, this is believed to be one of the first studies to look at fructose consumption from the total diet and associate it with higher blood pressure.

Survey on Diet

Jalal and her colleagues evaluated data from 4,528 adults, ages 18 and above, who took part in the National Health and Nutrition Examination Survey (NHANES) in 2003 and 2006. None had a history of high blood pressure.

They had answered questions about diet, and fructose intake was calculated based on the answers. Foods such as fruit juices, regular soft drinks, bakery goods and candy were included. Jalal did not include fruits, which also include "natural" fructose, because their antioxidants, potassium, and other substances counteract the fructose effects, she says.

The researchers found that the median fructose intake (half had more, half had less) was 74 grams a day, or about 2.5 sugary soft drinks.

When she took into account such factors as age, physical activity, calorie intake, and salt intake, Jalal still found an association between high fructose and blood pressure. Overall, intakes of 74 grams or more daily was associated with a 36% higher risk of having blood pressure of 140/90 or higher, she found. Ideally, blood pressure should be below 120/80.

Why Fructose May Raise Blood Pressure

Exactly why fructose may raise pressure wasn't looked at in the Jalal study, but she tells WebMD several mechanisms could explain the association. "We know that fructose has the potential to reduce nitric oxide production within the blood vessels," she says. "Nitric oxide relaxes the vessel and is supposed to lower blood

pressure. Fructose reduces the production of nitric oxide and makes it difficult for the vessels to relax and dilate."

Fructose also raises uric acid in the blood, she says, and that could raise blood pressure. "Fructose can tell the kidneys to 'hold onto' more salt, and that can contribute to high blood pressure," she says.

Beverage Industry Response

The beverage industry isn't convinced. "It's important to remember that this is an abstract presented at a scientific meeting," says Maureen Storey, senior vice president of science policy for the American Beverage Association in a prepared statement in response to the study.

"It is not a published, peer-reviewed paper where the study, the data and the results and conclusions have undergone the rigors of peer review." Because of that, Storey says, it is "impossible to provide thoughtful comments on the results."

She adds: "There is nothing unique about soft drinks and/or high-fructose corn syrup when it comes to risk for high blood pressure." She notes the many other risk factors for high blood pressure, including family history, lack of exercise, being overweight, and having a poor diet.

Second Opinion

Connie Diekman, RD, director of university nutrition at Washington University in St. Louis and a past president of the American Dietetic Association, reviewed the study for WebMD, and says: "The issue of fructose is one that is drawing much attention, but outcomes from research are conflicted." She awaits more study to see if the fructose-high blood pressure link is a true cause and effect, or more weakly associated.

Her advice: Sugary foods should only be chosen after you've had your fruits, vegetables, and other healthy foods.

Jalal says it's difficult to tell consumers an exact level of fructose intake that's healthy. And she cautions that she's not talking about the fructose found in fruits and some vegetables. "Fruits do have fructose, but not as much as a piece of pecan pie or a soft drink. Fruits have much less."