Can an Artificial Sweetener Impact Your Heart Health?

A cardiologist and a dietitian explain a new study that explores the link between erythritol, a popular sugar substitute, and the risk of heart attack and stroke.

It may seem like a healthier choice to skip table sugar in your morning coffee or tea, and opt for popular sugar substitutes like erythritol. But much remains unknown about the impact of these artificial sweeteners on our health. A recent study found that consuming foods with erythritol may increase risk of heart attack and stroke. In the small study of 20 participants, those who consumed a drink sweetened with erythritol had more active platelets in their blood, which can increase the risk for blood clots. It was a follow-up from a study released last year that that found that cardiac patients with high erythritol levels were twice as likely to experience a major cardiac event in the following three years compared to those with low levels.

"While the inference from this new study can give pause to people who ingest foods or drinks with erythritol, it doesn't necessarily confirm or deny it would cause heart attack or stroke," says Dr. Sahil Parikh, director of endovascular services at NewYork-Presbyterian/Columbia University Irving Medical Center. "We now have more information to study this process more thoroughly."

Erythritol is about 70 percent as sweet as table sugar and is sometimes used as a compound in stevia, monk fruit sweetener, and keto products. It's a non-nutritive sweetener known as a sugar alcohol, often found in candies, cookies and sodas, toothpaste and mouthwash, and foods labeled "sugar-free." Small amounts are found naturally in some fruits and vegetables and our bodies also produce it in low levels as a byproduct of glucose metabolism. When manufactured as a sugar substitute, it can be created by fermenting natural sugars, like corn, with yeast.

"Sugar alcohols have fewer calories and carbs than sugar, but we don't absorb them and our bodies don't use them for energy, so they just pass through our system when we urinate," says Gabrielle Gambino, a clinical dietitian who specializes in heart failure at NewYork-Presbyterian/Weill Cornell Medical Center. "Other sugar alcohols like xylitol, sorbitol and mannitol are common in foods like 'low-sugar' protein bars."

People who have hyperglycemia may benefit from non-nutritive sweeteners in the short-term to get their blood sugar under control, along with those on a weight-loss program under the guidance of a physician or clinical provider, Gabrielle adds, but more research is needed on the long-term impact of sugar substitutes.

"Some people may have preexisting conditions like metabolic issues or pre-diabetes that naturally raises the levels of erythritol in your blood. On its own, we don't know for sure what the effects are, not just in people at risk for cardiovascular disease, but in younger people who may be ingesting these products for a longer period throughout their lifetime," she says.

Sugar alcohols and non-nutritive sweeteners may cause an imbalance in your gut microbiome, recent research suggests, and those who are using them for weight management may gain the weight back or plateau.

"It's something researchers need to take more of a closer look at to get a clearer view of the relationship on our health.," Gabrielle says. "Working with advanced heart failure patients, I try to steer them away from using non-nutritive sweeteners and gradually trying to wean them off of that sweet taste that they're addicted to. Try to move towards a more whole foods approach when it comes to sweetening your foods, infusing your water with fruit or opting for less-processed sweeteners like agave or maple syrup that can provide antioxidant properties."

Patients are encouraged to speak with their physician or healthcare provider about managing any cardiovascular risk factors and medications before making any dietary changes, Dr. Parikh adds.

"Doctors and patients should have conversations about healthy lifestyle choices, and oftentimes that may mean avoiding these sugar substitutes altogether," he says.