

# Celiac disease linked to increased risk of coronary artery disease

March 29 2014

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People with celiac disease may have a near two-fold increased risk of coronary artery disease compared with the general population, according to research to be presented at the American College of Cardiology's 63rd Annual Scientific Session.

The study is the first to look at the association between celiac disease and [coronary artery disease](#) and adds to the evolving understanding of how systemic inflammation and autoimmune processes might influence cardiovascular disease development. Data also showed a slightly higher risk of stroke among people with celiac disease compared to controls.

Celiac disease is a chronic inflammatory condition of the digestive system that can damage the small intestine, eventually interfering with the absorption of key nutrients. People with celiac disease are unable to tolerate gluten – a protein found in food such as wheat, rye and barley. Gluten is thought to trigger an immune and inflammatory response in the gut.

"People with celiac disease have some persistent low-grade inflammation in the gut that can spill immune mediators into the bloodstream, which can then accelerate the process of atherosclerosis and, in turn, coronary artery disease," said R.D. Gajulapalli, M.D., clinical associate at the Cleveland Clinic and co-investigator of the study. "Our findings reinforce the idea that chronic inflammation, whether it's from an infection or a disease, can have an adverse role in coronary artery disease and heart health in general."

Researchers obtained [electronic health records](#) of [patients](#) from 13 participating health care systems between January 1999 and September 2013. Out of a total of nearly 22.4 million patients, 24,530 were diagnosed with celiac disease. Patients without celiac disease served as controls. There was no difference in smoking status or diabetes rates between the two groups. Those with celiac disease were slightly more likely to have [high cholesterol](#), but less likely to have [high blood pressure](#). Patients were age 18 and older. Traditional risk factors for coronary artery disease including sex, race, diabetes, high cholesterol, high blood pressure and smoking were checked between patients with celiac disease and controls to make sure they were comparable.

Researchers found a significantly higher prevalence of coronary artery disease among patients with celiac disease compared to the control population (9.5 percent compared to 5.6 percent, respectively). Data showed a similar trend among younger patients, those under age 65, with celiac disease compared to those without celiac disease (4.5 percent compared to 2.4 percent).

"This is an important study because it highlights a specific patient population who might be at higher risk for coronary artery disease, even in the absence of traditional cardiovascular risk factors," Gajulapalli said. "We were surprised by the strength of the association, especially in younger people. Patients and doctors should be aware of this association."

Celiac disease affects an estimated 1 in 133 Americans. But experts believe upwards of 80 percent of people with celiac disease are underdiagnosed or misdiagnosed with conditions such as lactose intolerance and irritable bowel syndrome. Previous research shows celiac disease has been on the rise and is four times more common now than it was 50 years ago. The only treatment for celiac disease is adopting a gluten-free diet. Sales of gluten-free products reached \$2.6 billion in

2010, and are expected to exceed more than \$5 billion by 2015. Although gluten is mainly found in foods, it can also be in everyday products such as medicines, vitamins and lip balms.

Celiac disease has been linked to arrhythmias (problems with the heart's rhythm) and possible heart failure.

"Whether patients with celiac disease will need more intense risk factor modification like in diabetic patients with coronary artery disease will need to be studied," Gajulapalli said. For now, he says people with this and other inflammatory diseases should maintain a healthy lifestyle and be aware of traditional [cardiovascular risk factors](#) including diabetes, high blood pressure and high cholesterol.

Larger studies are needed to confirm this association and to examine how the severity of celiac disease may play a role. Because so many people may have gluten sensitivities but do not have celiac disease, future research should investigate whether this larger population may also be at risk for [coronary artery](#) disease. Earlier studies have linked [celiac disease](#) with arrhythmias, which is what prompted researchers to conduct this study.

**More information:** Gajulapalli will present the study, "Coronary Artery Disease Prevalence is Higher among Celiac Disease Patients," on Saturday, March 29 at 1:30 p.m. EDT in Hall C.

Provided by American College of Cardiology

Citation: Celiac disease linked to increased risk of coronary artery disease (2014, March 29) retrieved 1 January 2023 from <https://medicalxpress.com/news/2014-03-celiac-disease-linked-coronary-artery.html>

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