

Study finds rate of celiac disease is growing

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Working to solve the puzzle of when people develop celiac disease has led researchers from the University of Maryland School of Medicine Center for Celiac Research to some surprising findings. They have found that the autoimmune disorder is on the rise with evidence of increasing cases in the elderly. An epidemiological study published September 27 in the *Annals of Medicine* supports both trends—with interesting implications for possible treatment and prevention.

"You're never too old to develop [celiac disease](#)," says Alessio Fasano, M.D., director of the University of Maryland's Mucosal Biology Research Center and the celiac research center, which led the study. The Università Politecnica delle Marche in Ancona, Italy; the Johns Hopkins Bloomberg School of Public Health; the Women & Children's Hospital of Buffalo; and Quest Diagnostics Inc. of San Juan Capistrano, Calif., also participated.

Celiac disease is triggered by consuming gluten, a protein found in wheat, barley and rye. Classic symptoms include diarrhea, intestinal bloating and stomach cramps. Left untreated, it can lead to the malabsorption of nutrients, damage to the small intestine and other medical complications.

Since 1974, in the U.S., the incidence of the disorder has doubled every 15 years. Using blood samples from more than 3,500 adults, the researchers found that the number of people with blood markers for celiac disease increased steadily from one in 501 in 1974 to one in 219 in 1989. In 2003, a widely cited study conducted by the celiac research

center placed the number of people with celiac disease in the U.S. at one in 133.

As the people in the study aged, the incidence of celiac disease rose, echoing the findings of a 2008 Finnish study in Digestive and Liver Disease that found the prevalence of celiac disease in the elderly to be nearly two and a half times higher than the general population. The recent findings challenge the common speculation that the loss of gluten tolerance resulting in the disease usually develops in childhood.

"You're not necessarily born with celiac disease," says Carlo Catassi, M.D., of the Universita Politecnica delle Marche in Italy. Dr. Catassi is the lead author of the paper and co-director of the Center for Celiac Research. "Our findings show that some people develop celiac disease quite late in life." The trend is supported by clinical data from the center, notes Dr. Catassi, who urges physicians to consider screening their elderly patients.

Although researchers have identified specific genetic markers for the development of celiac disease, exactly how and why an individual loses tolerance to gluten remains a mystery. "Even if you have these genetic markers, it's not your destiny to develop an autoimmune disease," adds Dr. Fasano. "Our study shows that environmental factors cause an individual's immune system to lose tolerance to gluten, given the fact that genetics was not a factor in our study since we followed the same individuals over time."

The finding contradicts the common wisdom that nothing can be done to prevent autoimmune disease unless the triggers that cause autoimmunity are identified and removed. Gluten is one of the triggers for celiac disease. But if individuals can tolerate gluten for many decades before developing celiac disease, some environmental factor or factors other than gluten must be in play, notes Dr. Fasano.

Identifying and manipulating those factors could lead to novel treatment and possible prevention of celiac disease and other autoimmune disorders including type 1 diabetes, rheumatoid arthritis and multiple sclerosis. Researchers at the University of Maryland Center for Celiac Research are working toward that goal, says Dr. Fasano. As the third most common disease category after cancer and heart disease, autoimmune disorders affect approximately five to eight percent of the U.S. population, according to the National Institutes of Health.

"The groundbreaking research of Dr. Fasano and his team sheds new light on the development of celiac disease, a complex disorder that continues to present challenges to physicians and their patients," says E. Albert Reece, M.D., Ph.D., M.B.A, vice president for medical affairs, University of Maryland, and John Z. and Akiko K. Bowers Distinguished Professor and dean, University of Maryland School of Medicine.

Diagnosis of celiac disease can be a challenge as patients who test positive for the disease may not display the classic symptoms of gastrointestinal distress linked to the disease. Atypical symptoms include joint pain, chronic fatigue and depression. In the study, only 11 percent of people identified as positive for celiac disease autoimmunity through blood samples had actually been diagnosed with the disease.

More information: "Natural History of Celiac Disease Autoimmunity in a USA Cohort Followed Since 1974" in *Annals of Medicine*. The article will be featured in the December 2010 issue.

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