What Could It Be? Gluten-Sensitive Enteropathy

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Abstract

What do I do? A 34-year-old female patient presents to the gastrointestinal office with the following complaints: joint pain, headaches, mild anemia, dry mouth, anxiety, and fatigue. Occasionally she has abdominal discomfort and bloating. These certainly do not sound like symptoms that are typical in a gastrointestinal office, but they could be.

Gluten-Sensitive Enteropathy: Facts

According to the Celiac Support Association [1] and the University of Chicago Celiac Disease Center [2] Celiac Disease has the following facts:

• It is estimated that more than 3 million individuals in the US are affected by Celiac Disease but approximately ½ are undiagnosed.
• Over ½ of those diagnosed with Celiac Disease were asymptomatic.
• Initial diagnosis of Celiac Disease can take between 4-6 years but up to greater than 10 years.
• Individuals, who have a parent, child, or sibling with Celiac Disease, have a 1 in 22 chance of a diagnosis of Celiac Disease.
• Individuals, with an aunt, uncle, or cousin diagnosed with Celiac Disease, also have an increased risk of a diagnosis of Celiac Disease.
• Though there is a family connection, the inheritance pattern is unknown.
• Healthcare costs in the US for those undiagnosed can exceed $30 billion dollars.

Gluten-Sensitive Enteropathy: Description

Gluten-Sensitive Enteropathy, also known as Celiac Disease, is an autoimmune disease. This disease focuses on the small bowel and requires lifelong treatment [3]. It is genetically linked, and according to the U.S. National Institute of Health, there are about 1 in 100 people worldwide that are affected by it. When an individual consumes the gluten protein that is naturally found in wheat, barley, and rye the body, specifically the immune system, reacts against self-antigens. This reaction leads to damage to that individuals own tissue due to autoantibodies [3].

Three issues, genetics, immunity, and environment, must be considered when discussing Celiac Disease. The environmental factor is the ingestion of gluten through a variety of products. Genetically, there is the presence of an antigen identified in the blood. The intestinal cells become injured through a T-cell-mediated autoimmune response [3]. "Transglutaminase 2 (TG2) and endomyosial autoantibodies closely correlate with the acute phase of the disease in the presence of gluten. T-cell infiltration results in mucosal cell destruction with inflammation, atrophy, and flattening of villi in the upper small intestine” [3]. Thus, cell death exceeds cell reproduction and the immature cells cannot sustain proper absorptive functions, particularly in the duodenum and jejunum [3]. The damage leads to malabsorption.

Gluten-Sensitive Enteropathy: Symptoms

As we have already identified, more than 3 million individuals in the US are affected by Celiac Disease, yet only one-half of those have been diagnosed. The high rate of delayed or no diagnosis can be attributed to the symptoms, which vary depending on age. Since this is considered a gastrointestinal disease, an expectation would be gastrointestinal symptoms, however this is not always the case. Digestive symptoms can be present, but are more typical in children. Absorption of nutrients is very important for the growth and development of children, however, if Celiac Disease is present, that child is not absorbing essential nutrients. Commonly, in children gastrointestinal symptoms include [7,8]:

• Abdominal pain and bloating
• Diarrhea and/or constipation
• Increased gas
• Pale, foul-smelling stool
• Fatty, floating stool

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Adults, however, are less likely to exhibit the same symptoms, in fact, they may not have digestive symptoms. They may have some of the following symptoms [7,8]:

- Nausea and/or vomiting
- Delayed growth/failure to thrive
- Weight loss
- Fatigue

Dietary changes are recommended to eliminate gluten in their diet. The healthcare provider will evaluate their food history, conduct a physical examination, and perform diagnostic tests. Initial evaluations are inconclusive, genetic testing can be considered [8]. Recommendations for a diagnosis indicate that if four out of the following five conditions are present, then a diagnosis of Celiac Disease should be established [9]:

1. Typical symptoms present
2. Positive serum lab work
3. DQ2 or HLA-DQ8 genotype
4. Small-bowel biopsy shows celiac enteropathy
5. Gluten-free diet had a positive response

Gluten-Sensitive Enteropathy: Treatment

Treatment is challenging for the patient and the healthcare provider. Primary treatment is a gluten-free diet. One note to remember is that once an individual is placed on a gluten-free diet for approximately one year, the body will be evaluated for rashes and malnutrition, and a thorough abdominal examination will be conducted [8]. Recommendations for a diagnosis indicate that if four out of the following five conditions are present, then a diagnosis of Celiac Disease should be established [9]:

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Gluten-Sensitive Enteropathy: Diagnosis

So many individuals go undiagnosed for so long, because only a small portion of the intestine is affected or the inflammation is very mild [9]. Since so many of the symptoms of Celiac Disease mimic other disease processes, differentiation is difficult. Individuals with common presentations may be so mild or so basic, that the healthcare provider initially assumes that it may be viral or bacterial in nature, irritable bowel syndrome (IBS), inflammatory bowel disease (IBD), or some type of nutritional imbalance [10]. In individuals who have opted to eliminate gluten in their diet prior to testing, they may receive a delayed diagnosis due to false laboratory results or inaccurate endoscopic biopsies [10]. Since celiac disease has autoimmune features and reactions, those who are already on immunosuppressant therapy could also have delayed diagnosis [10]. In individuals whom the healthcare provider strongly suspects gluten-sensitive enteropathy and who has negative results on initial testing, recommendations are to ensure that the individual has not removed gluten from his/her diet, review medications that could lead to false test results, and repeat testing.
Gluten-Sensitive Enteropathy: Education

Education is key and once diagnosed, individuals with Celiac Disease are asked to make major life changes. Healthcare providers instruct patients to eat a gluten-free diet, but what does that mean? Gluten is a protein. It is found naturally in wheat, barley, and rye [8]. Gluten is also hidden in food substances and other products [6]. According to O’Donnell [6], “Gluten is used as a stabilizer, emulsifier, and thickening agent in a vast amount of processed foods” (pg. 5). Gluten may be found in herbal/nutritional supplements, medications, children’s modeling dough, cosmetics and beauty products, and healthcare products [8]. A referral to a dietician would be beneficial in helping individuals to learn to read labels, plan meals, and make healthy choices [8]. Educational resources include, but are not limited to, Celiac Disease Foundation, www.cealiac.org, Celiac Support Association, www.csaceliacs.org, and www.celiac.com. Many of these websites offer lists of gluten free products and recipes, as well as support groups. Remember, one can never have too much knowledge!

Competing Interests

The author have no conflict of interests to disclose.

Author Contributions

Dr. Oden has been a Family Nurse Practitioner, working in the area of Gastroenterology for the past 11 years and has been in full time education for the past 6 years. She has authored or co-authored articles on Barrett’s Esophagus and Transitioning Nurse Practitioners into Associate Professors. Her doctoral research focused on community awareness of colorectal cancer. She has presented at the local, state, and international levels. Most recently, she received the Phi Kappa Phi Honor Society Eleanor Gaunder Teaching Excellence Award, a peer nominated award.

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