

Coeliac disease and Gluten intolerance

Celiac disease (CD) is a genetically determined condition in which certain grain proteins cause an autoimmune response that damages the lining of the small intestine, causing blunting of the villi and malabsorption of nutrients. Once thought to be a rare condition, CD is now understood to affect as many as 1:266 people worldwide.

Gluten is the general term for the proteins that have been found to be toxic in those with CD - specifically the storage proteins (prolamins) in wheat (gliadin), rye (secalin) and barley (hordein). Many individuals with CD may be only mildly symptomatic or asymptomatic at diagnosis. Or, they may present with various nutrition or malabsorption-related problems such as unintentional weight loss, bloating and gas, ongoing fatigue, lactose intolerance, diarrhoea or constipation, iron deficiency anaemia, folate deficiency, low serum levels of vitamin B12, magnesium and phosphorous. The length of time with active but undiagnosed disease, the extent of gut damage and degree of malabsorption will impact the degree of nutritional compromise. Individuals frequently present with various associated extra-intestinal manifestations of CD such as osteopenia or osteoporosis, infertility, neurological problems and dental enamel abnormalities. Another presentation of CD is dermatitis herpetiformis, a symmetrically distributed blistering and itchy rash appearing primarily on buttocks, elbows and knees. Since the symptoms are common to many other conditions, it is imperative that a doctor makes a preliminary diagnosis through a blood test usually by checking anti-tissue transglutaminase antibodies (tTGA). If blood tests and symptoms suggest celiac disease, a biopsy of the small intestine is performed to confirm the diagnosis.

Currently, the only treatment for CD is a life-long gluten-free diet (GFD). Strict avoidance of wheat, rye, and barley and their derivatives will result in intestinal healing and relief of symptoms for the majority of individuals with CD. Although the diet ultimately brings about greater well-being, it requires a significant amount of effort and commitment, especially in the beginning. Therefore, it is essential that everyone with CD together with family members be referred to a registered dietitian (RD) for nutritional assessment, education and support as soon as possible. Patients who do not follow the GFD or who follow it haphazardly may develop malabsorption-related problems and extraintestinal conditions described above, as well as increasing their risk of small bowel lymphoma.

The GFD is simple in principle, however, completely eliminating all foods and ingredients containing wheat, rye, barley, and most commercial oats can be very challenging. In addition to the obvious sources of gluten like breads, pastas, and most common breakfast cereals, gluten is often found in a wide variety of products such as seasonings, sauces, soy sauce, marinades, salad dressings, soups, prepared meats, candy and flavoured coffee/teas. Individuals with CD not only need to know which foods and ingredients to avoid, but also how to integrate the diet into their day-to-day work and family lives. This includes mastering label reading and becoming familiar with sources of GF foods and basic GF cooking methods. Simply dropping gluten-containing foods from the diet may result in an unbalanced diet lacking in certain nutrients. In addition, specific strategies for eating in restaurants and while travelling away from home, as well as how to prevent cross-contamination of GF foods with gluten-containing foods and ingredients are important.

The GFD is necessary for intestinal healing and recovery for people diagnosed with CD. The nutritional adequacy of the GFD can vary considerably among individuals with CD. Implementing the diet requires significant change and commitment from patients and comprehensive diet education from a skilled dietitian. Periodic follow-up with a registered dietitian, and participation in national support group activities can improve dietary compliance and quality of life for individuals with CD. Although many common foods must be eliminated, the GFD can be both healthful and enjoyable.

Further Reading: 1. World Gastroenterology Organisation (WGO-OMGE). WGO-OMGE practice guideline: Celiac Disease: World Gastroenterology Organisation (WGO-OMGE); 2007 pgs 1-18. 2. National Institute for Health and Clinical Excellence <http://guidance.nice.org.uk/CG86> Coeliac disease: recognition and assessment of coeliac disease May 2009. 3. National Digestive Diseases Information Clearinghouse <http://digestive.niddk.nih.gov> Coeliac Disease September 2008.