

CELIAC DISEASE



Celiac disease affects nearly 3 million Americans. Although classically considered a gastrointestinal disorder, celiac disease can actually present with a variety of intestinal and extra-intestinal symptoms. Onset may occur in childhood or later in adult life. Extra-intestinal symptoms often predominate, making the disease difficult to recognize.

Celiac disease is an immune-mediated disorder triggered by exposure to specific dietary proteins (glutens) in wheat, barley, and rye. Affected individuals develop inflammation and atrophy of the small intestine. When present, skin involvement produces intensely pruritic vesicular lesions on the elbows, knees, and face (dermatitis herpetiformis).

Celiac disease is closely associated with IgA and IgG antibodies to the enzyme tissue transglutaminase (tTG). tTG antibody assays are now considered the most sensitive and specific serologic tests for celiac disease. PAML offers a rapid and reliable immunoassay for tTG antibodies (IgA and IgG).

tTG antibodies are probably identical to so-called endomysial antibodies, which are detectable by indirect immunofluorescence. The latter is a good test, but more subject to interpretation than the immunoassay used for tTG antibodies. Both of these tests are superior to the older gliadin and reticulon antibody tests.

Additional Points

- Individuals placed on a gluten-free diet before diagnostic testing may have low or falsely negative serologic tests. A gluten challenge may be necessary to elicit a rise in titer.
- IgA antibodies to tTG are more specific than IgG antibodies, but will be negative in patients with selective IgA deficiency (found in 2% of patients with celiac disease). IgG antibody testing is necessary to detect these patients.
- Endoscopic biopsies of the small bowel with typical inflammatory changes are still the gold standard for the diagnosis of celiac disease.

Quick Facts

- Celiac disease affects up to 1% of the population and can present with a variety of intestinal and/or extraintestinal symptoms.
- Intestinal symptoms include diarrhea, weight loss, vomiting, abdominal pain, bloating and distension, anorexia, constipation, and failure to grow in children. Obesity does not exclude this diagnosis.
- Extra-intestinal manifestations include skin lesions (dermatitis herpetiformis), iron deficiency, infertility, recurrent fetal loss, osteoporosis, vitamin deficiencies, fatigue, protein-calorie malnutrition, recurrent aphthous stomatitis, elevated liver transaminases, dental hypoplasia, short stature, and delayed puberty in children.
- tTG antibody (IgA and IgG) assays are the most sensitive and specific serologic tests for celiac disease and are recommended for screening.
- Small bowel biopsy remains the gold standard for diagnosis.