

CELIAC DISEASE: The first step in diagnosis

Clinical Summary

Celiac disease is an immune-mediated disorder that primarily affects the gastrointestinal tract. It is characterized by inflammation of the small intestine that may result in atrophy of the intestinal villi, malabsorption, and numerous other clinical manifestations. Intestinal symptoms include diarrhea, abdominal cramping, pain, and distension. It is common for celiac disease to present with extra-intestinal symptoms, sometimes with little or no gastrointestinal symptoms. These symptoms include dermatitis herpetiformis (itchy rash on elbows, knees, and buttocks), anemia, infertility, and delayed puberty. Untreated disease may lead to vitamin and mineral deficiencies and osteoporosis. There is a strong genetic predisposition to celiac disease. More than 97 percent of celiac patients have the HLA-DQ2 and/or HLA-DQ8 genetic markers compared to 40 percent in the general population. Dietary proteins, called glens, present in wheat, barley, and rye interact with these HLA molecules to activate an abnormal immune response and induce tissue damage. Symptoms subside when gluten is removed from their diet.

It is estimated that 2-3 million Americans are affected by celiac disease. Individuals with a higher risk of celiac disease include those with Type 1 diabetes, autoimmune diseases, Down Syndrome, and first and second degree relatives of celiac patients. It has also been noted that selective IgA deficiency occurs at a 10 to 16-fold higher rate in celiac patients than the general population.

For More Information

Ike Northern - Microbiology/Serology Manager,
(937) 297-8334

Sources: National Institutes of Health, Consensus Development Conference Statement (draft statement), June 30, 2004; Celiac Disease, PHR Green, B. Jabri, The Lancet, Vol. 362, No. 9381, pp. 383-391.

Testing for Celiac Disease

Identification of the autoantigens involved in celiac disease has led to the development of serologic diagnostic tests. The 2004 NIH Consensus Statement on Celiac Disease states that “*the first step in pursuing a diagnosis of celiac disease is a serologic test*”. CompuNet offers several tests for the diagnosis for Celiac disease. These include antibodies to gliadin (IgG and IgA), tissue transglutaminase - TTG (IgA), and endomysium (IgA) Each marker may be ordered individually or a profile may be ordered. The celiac panel contains all four markers in addition to a total IgA level. When serologic testing indicates a diagnosis of celiac disease, the diagnosis is confirmed by observing villus atrophy on an intestinal biopsy.

Test Codes

74221	Gliadin IgA marker
74222	Gliadin IgG marker
8889	Gliadin Panel - includes IgA and IgG markers
8821	TTG IgA marker
74224	Endomysial IgA marker
73861	Celiac Panel - includes 4 markers plus total IgA level

Specimen Requirements

- 2 ml serum required
- Samples should be stored in refrigerator
- All tests require SST tube

