

Introduction

Celiac disease (CD) is one of the most common causes of chronic malabsorption and may contribute to a wide variety of chronic conditions including autoimmune disorders and nutritional deficiencies. Celiac disease remains underdiagnosed, as the condition is often asymptomatic for years.

Antibody tests that help diagnose CD and Non-Celiac Gluten sensitivity (NCGS) measure the patient's immune response to gluten exposure; the tests will only be diagnostically accurate if the patient is on a gluten-inclusive diet.

Evaluation of antibodies (tissue transglutaminase and deamidated gliadin peptide) in CD is based on detection of IgA class immunoglobulins. However the incidence of selective IgA deficiency is higher in CD, therefore this test also evaluates the corresponding IgG antibodies.

Patients diagnosed with CD must remain on a gluten-free diet for life and avoid wheat, rye, barley, and other foods that contain gluten and gluten related proteins. A complete list of foods containing wheat may be found at www.doctorsdata.com under "Hidden Sources of Ingredients".

The Doctor's Data Comprehensive Stool Analysis would include all of these tests plus additional biomarkers of digestive health and gastrointestinal function.

References:

American Association for Clinical Chemistry (2011) Celiac Disease Tests <http://labtestsonline.org/> accessed 15 May 2014.

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Deamidated Gliadin Peptide (DGP) Antibody Negative

The anti-deamidated gliadin peptide (DGP) IgA or IgG results are within normal limits. Celiac disease is associated with a variety of autoantibodies, including tissue transglutaminases (tTG), and deamidated gliadin antibodies; these are considered the most sensitive and specific serologic tests for CD. Antibody responses to deamidated gliadin peptide show high specificity and parallel tTG responses in CD.

A negative DGP IgA antibody result does not exclude an indication of CD in patients who have selective IgA deficiency, or have been following a gluten-free diet because antibody levels decrease over time. Responses to a gluten-free diet (GFD) vary however, research indicates that weakly positive individuals may become serology-negative within weeks of strict adherence to GFD. Within 6-12 months of adhering to a GFD, 80% of patients will test negative by serology. After five years, more than 90% of patients adhering to the GFD will have negative serologies.

This test result alone is not diagnostic for absence of Celiac disease. The results should be considered in conjunction with the patient's symptoms, immune status, diet, genetic predisposition and medical history.

References:

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Wang, Ning; Truedsson, Lennart; Elvin, Kerstin; Andersson, Bengt A; Rönnelid, Johan et al. (2014) Serological assessment for celiac disease in IgA deficient adults. *PloS one* vol. 9 (4) p. e93180.

Gliadin Antibody High

The serum level of anti-gliadin antibodies (AGA) IgA, IgG or both is higher than expected. An elevation in either IgA or IgG may indicate gluten sensitivity.

Gluten sensitivity is defined as a gluten reaction that is independent of the IgE reactions of wheat allergy and autoantibody reactions of Celiac disease. In at least 50% of cases, elevated IgA and IgG AGA may be the only serological biomarker in cases of dermatitis herpetiformis or gluten ataxia. Studies have shown that patients with autism, Multiple Sclerosis or schizophrenia are more likely to have elevated IgA AGA levels and that those more likely to have adverse responses to dietary gluten.

Whole purified gliadin that contains the alpha, omega, beta and gamma isorforms is used in the assay.

A negative AGA IgA result does not exclude a possibility of gluten-sensitivity in patients who have selective IgA deficiency, or have been following a gluten-free diet because antibody levels decrease over time.

References:

American Association for Clinical Chemistry (2011) Celiac Disease Tests <http://labtestsonline.org/> accessed 15 May 2014.

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