Celiac & Gluten Sensitivity; serum

<table>
<thead>
<tr>
<th>ANTIBODIES</th>
<th>RESULT/UNIT</th>
<th>REFERENCE INTERVAL</th>
<th>NEG</th>
<th>WEAK POS</th>
<th>POSITIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tissue Transglutaminase (tTG) IgA</td>
<td>141 U</td>
<td>&lt; 20.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tissue Transglutaminase (tTG) IgG</td>
<td>17.2 U</td>
<td>&lt; 20.0</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Deamidated Gliadin Peptide (DGP) IgA</td>
<td>&lt; 5.2 U</td>
<td>&lt; 20.0</td>
<td></td>
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<tr>
<td>Deamidated Gliadin Peptide (DGP) IgG</td>
<td>32.1 U</td>
<td>&lt; 20.0</td>
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<tr>
<td>Gliadin IgA</td>
<td>14.0 U</td>
<td>&lt; 20.0</td>
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<tr>
<td>Gliadin IgG</td>
<td>86.0 U</td>
<td>&lt; 20.0</td>
<td></td>
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<tr>
<td>Wheat IgE</td>
<td>0.16 IU/mL</td>
<td>&lt; 0.08</td>
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</tr>
</tbody>
</table>

Immunoglobulin A (IgA) 126 mg/dL 35–300

Celiac Disease/Gluten Sensitivity/Wheat Allergy Cascade

- Tissue Transglutaminase (tTG) IgA antibodies
- Tissue Transglutaminase (tTG) IgG antibodies
- Deamidated Gliadin Peptide (DGP) IgA antibodies
- Deamidated Gliadin Peptide (DGP) IgG antibodies

Any Positive
  Consider Celiac Disease
  Gliadin IgA antibodies
  Gliadin IgG antibodies
  Wheat IgE antibody
    Negative
      Negative
        Either Positive
          Consider Gluten Sensitivity
        Negative
          Positive
            Consider Wheat Allergy
    Negative
      Consider Celiac Disease

SPECIMEN DATA

Comments:
Date Collected: 06/09/2015
Date Received: 06/11/2015 <dl: less than detection limit
Date Completed: 06/17/2015
Method: Chemiluminescent, Immunoassay

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0001905
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:
Sapone, Anna; Lammers, Karen; Casolaro, Vincenzo; Cammarota, Marcella; Giuliano, Maria et al. (2011) Divergence of gut permeability and mucosal immune gene expression in two gluten-associated conditions: celiac disease and gluten sensitivity. BMC Medicine vol. 9 (1) p. 23.

Deamidated Gliadin Peptide (DGP) Antibody High

The serum level of anti-deamidated gliadin peptide (DGP) IgA, IgG or both is higher than expected. An elevated level of DGP IgA or IgG is indicative of Celiac disease.

Celiac disease (CD) is associated with a variety of autoantibodies, including tissue transglutaminases (tTG), and DGP; these are considered the most sensitive and specific blood tests for CD. Antibody responses to DGP show high specificity and parallel tTG responses in CD. The higher the level of anti-DGP IgA or IgG is, the greater the likelihood of a true positive result. For patients with selective total IgA deficiency and in those under age 2, DGP IgA will not likely be elevated and conclusions should be based upon the DGP IgG results.

These test results alone are not diagnostic for Celiac disease. The results should be considered in conjunction with the patient’s symptoms, immune status, diet, genetic predisposition and medical history.
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 gamm 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:
Tissue Transglutaminase Antibody High

The serum level of anti-tissue transglutaminase (tTG) IgA, IgG or both is higher than expected. An elevated tTG IgA or IgG is indicative of Celiac disease (CD). tTG IgA is the preferred screening test for detection of CD in patients 2 years or older. The tTG IgA test is the most sensitive and specific blood test for CD; the higher the titer of the test, the greater the likelihood of a true pathological autoimmune response. The autoimmune response results in inflammation of portions of the small intestine and damage to the small intestinal mucosa (including villous atrophy).

The tTG IgA test may also be used to monitor a patient with Celiac disease. tTG IgA antibody levels will return to normal when gluten and gluten related proteins are completely removed from the diet; the test may thus also help monitor the efficacy of intervention. Patients with Type 1 diabetes, Hashimoto’s thyroiditis or autoimmune liver conditions may also have increased tTG IgA antibodies.

IgG for tTG is the preferred test for children less than 2 years of age, and individuals who have very low levels of total IgA or selective IgA deficiency. The higher the level of tTG IgG the greater the likelihood of a true positive result. The tTG IgG test may also be used to monitor a patient with CD. tTG IgG antibody levels are expected to return to normal when gluten is removed from the diet. Research indicates that, for Celiac IgA deficient adults, IgG antibodies may decrease more slowly, despite adherence to a gluten-free diet. Refer to the anti-gliadin antibody levels to confirm the presence or absence of gluten in the patient’s diet.

These test results alone are not diagnostic for 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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Wheat IgE High

The serum level of anti-wheat immunoglobulin subclass E (IgE) is higher than expected and indicates an allergic sensitivity to wheat.

Immunoglobulin subclass E (IgE) antibodies are used to diagnose type I hypersensitivity reactions to foods. IgE responses are known as "immediate" or anaphylactic responses. Direct exposure to the basophils and mast cells in the GI tract lining is usually required to trigger a food allergy reaction, although there are reports of reactions to inhaled foods. Not all reactions are mediated through IgE; though the likelihood of an IgE-mediated clinical reaction often increases with the level of specific IgE. Evidence of sensitization to a particular allergen (positive test result) is not always synonymous with clinical sensitivity.

References:

Siles, Roxanna I. MD and Hsieh, Fred H., MD (2013) Allergy blood testing: A practical guide for clinicians. Cleveland Clinic Journal of Medicine, Dec 2013, 80 (12).