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CLINICAL BRIEF

LABORATORY DIAGNOSIS OF CELIAC DISEASE

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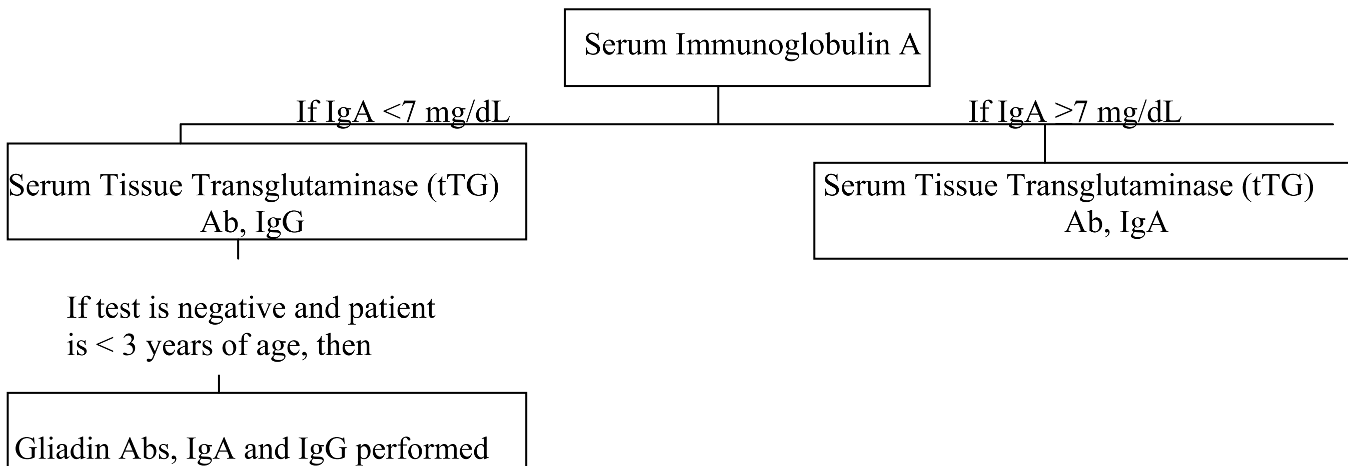
New consensus guidelines from National Institutes of Health recommend serologic screening and, if positive, confirmation with small bowel biopsy. Based on these recommendations, the laboratory now offers a **Celiac Disease Reflexive Panel** which provides sensitive, specific, cost effective serologic testing in patients clinically suspected to have Celiac disease. This panel will replace the Celiac Panel that was previously sent to Prometheus Laboratory. The Celiac Disease Reflexive Panel is orderable in Cerner and includes:

CELIAC DISEASE REFLEXIVE PANEL



Celiac disease and dermatitis herpetiformis, a skin disease, the two forms of gluten sensitive enteropathy (GSE) are characterized by intolerance to gluten, the protein of wheat, rye and barley. Classic Celiac disease in adults is characterized by gastrointestinal complaints and changes secondary to malabsorption caused by immune-mediated injury of the small bowel. Symptoms may include abdominal discomfort, diarrhea, flatulence, bloating, steatorrhea, weight loss, fatigue and malaise. Other people may have atypical, silent or latent Celiac disease (ref. 2). All GSE patients have an **<u>increased risk of lymphoma</u>**. Symptoms and risk of lymphoma may be reduced by placing patient on gluten-free diet.

- Accurate diagnosis of Celiac disease requires that patients have gluten in their diet at the time of testing.
- A diagnosis of Celiac disease should <u>NOT</u> be made on the basis of positive serological tests alone. **Multiple small bowel biopsies from the second part of the duodenum or beyond are needed to confirm the diagnosis.** The only exception to this rule is if the patient has biopsy-proven dermatitis herpetiformis.
- Antigliadin antibodies are no longer recommended as a routine screening test because of variable sensitivity and specificity, except in young children where they may be used as an adjunctive test.
- There is no advantage to using a panel of tests incorporating gliadin, endomysial and tissue transglutaminase IgA over a single test detecting either tissue transglutaminase or endomysial antibodies.

- Detection of tissue transglutaminase antibody or endomysium antibody are both highly sensitive and specific. However, the tissue transglutaminase antibody test is more sensitive, easier to perform and more reproducible. The sensitivity is 95% to 98% and the specificity is 94% to 95%.
- A positive serological test with a small bowel biopsy diagnostic of Celiac disease or skin biopsy-proven dermatitis herpetiformis in a patient with gluten in their diet allows a presumptive diagnosis of Celiac disease. A definitive diagnosis is provided by resolution of symptoms following the introduction and maintenance of a strictly gluten-free diet.
- When patients successfully maintain a gluten-free diet, tTG IgA antibodies disappear from serum. Endomysial IgA titers may be ordered if needed, to monitor adherence to diet.
- High risk populations that should be screened for Celiac disease include those with symptoms, individuals with autoimmune disorders, (e.g. Type 1 diabetes mellitus, thyroid, adrenal, liver and Sjogren's Syndrome), and first and second degree relatives of patients with Celiac disease. Screening of the general population is not recommended at this time.
- 2% of patients with Celiac disease will be IgA deficient and unable to make IgA antibodies. These patients need to be screened using an IgG test. (See reflex algorithm above).
- Tests may be ordered separately if you prefer.
- When the diagnosis is uncertain due to indeterminate results, then genetic markers (HLA DQ typing) may be of benefit.

REFERENCES:

1. Rostom A; Celiac Disease Summary, Evidence Report/Technology Assessment No. 104. AHRQ Publication No. 04-E029-1, Agency for Healthcare Research and Quality, June 2004/www.ahrq.gov
2. Nimmo, Michael; Celiac Disease: An Update with Emphasis on Diagnostic Considerations; Lab Medicine; Volume 36, Number 6. June 2005 pg 366-369.

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