Celiac Disease Panels

Cascading Reflex: Test # 905151

[See Testing Algorithm on Reverse]

Comprehensive Panel: Test # 803170

[Includes: Total IgA; tTG AB, IgA & IgG; Gliadin (Deamidated) AB, IgA & IgG]

Clinical Summary

Celiac Disease (CD) is caused by an immune response to gluten in genetically susceptible individuals. Patients may develop partial to complete villous atrophy of the small intestine, crypt hyperplasia, and lymphocytic infiltration of the epithelium and lamina propria. CD is more common that once thought, affecting approximately 1 in 100 Americans in the general population.[1] The prevalence is even higher in individuals with insulin-dependent diabetes mellitus; autoimmune thyroiditis; Down, Turner, or Williams syndrome; selective IgA deficiency; unexplained iron deficiency anemia; premature-onset osteoporosis; or a family history of CD (first-degree relative).[1,2] Early diagnosis of CD and initiation of a gluten-free diet are necessary to begin histologic improvement, which is more rapid and more complete in children that in adults.[1]

Presenting symptoms of CD vary according to age group and the extent of villous atrophy. Infants and young children commonly present with diarrhea, failure to thrive, and abdominal pain and distention. Older children and adolescents may exhibit extraintestinal symptoms including short stature, delayed puberty, anemia, and neurological symptoms caused by nutrient malabsorption. In up to 50% of adults with CD, diarrhea, which may be accompanied by abdominal pain or discomfort, is the presenting symptom. On the other hand, patients with CD may be asymptomatic, especially those in high-risk groups.

Diagnosis is based on biopsy of the small intestine, but serologic assays help identify patients who require this invasive procedure. Tissue transglutaminase antibody (tTG; IgA) is an excellent first-line marker, with high sensitivity (90% to 96%) and specificity (>95%) reported for children and adults with CD.[1] Total serum IgA is measured to identify selective IgA deficiency, present in about 2% to 10% of CD patients. Such patients would have negative results on IgA anti-tTG results but may have positive IgG anti-tTG results.

Because levels of anti-tTG tend to wane in the absence of gluten ingestion, this marker is useful to monitor adherence to a gluten-free diet. Testing frequencies of every six months after starting the gluten-free diet and ≥1 year in asymptomatic individuals have been recommended.[2] Testing can also be performed at any time in individuals with persistent or recurrent symptoms.[2]

A new generation of tests that use deamidated gliadin peptides (DGP) have sensitivity and specificity that are substantially better than the older gliadin tests.[3] DGP tests are more accurate than tTG and AGA and may be the most reliable tests to detect CD in people with IgA deficiency.[4]

Benefits

- Enables early detection of gluten sensitivity, which may help avoid progression of celiac disease, particularly in children
- Useful in monitoring adherence to gluten-free diet

Specimen Requirements

5.0 mL of refrigerated serum from a plain red-top tube or serum separator tube (0.6 mL minimum). Overnight fasting is preferred.

CPT* Codes

Cascading Reflex: Total IgA (82784); Normal or Elevated IgA Reflexes (83516 x2); Low IgA Reflexes (83516 x4); Deficient IgA Reflexes (83516 x2)

Comprehensive Panel: 82784; 83516 x4

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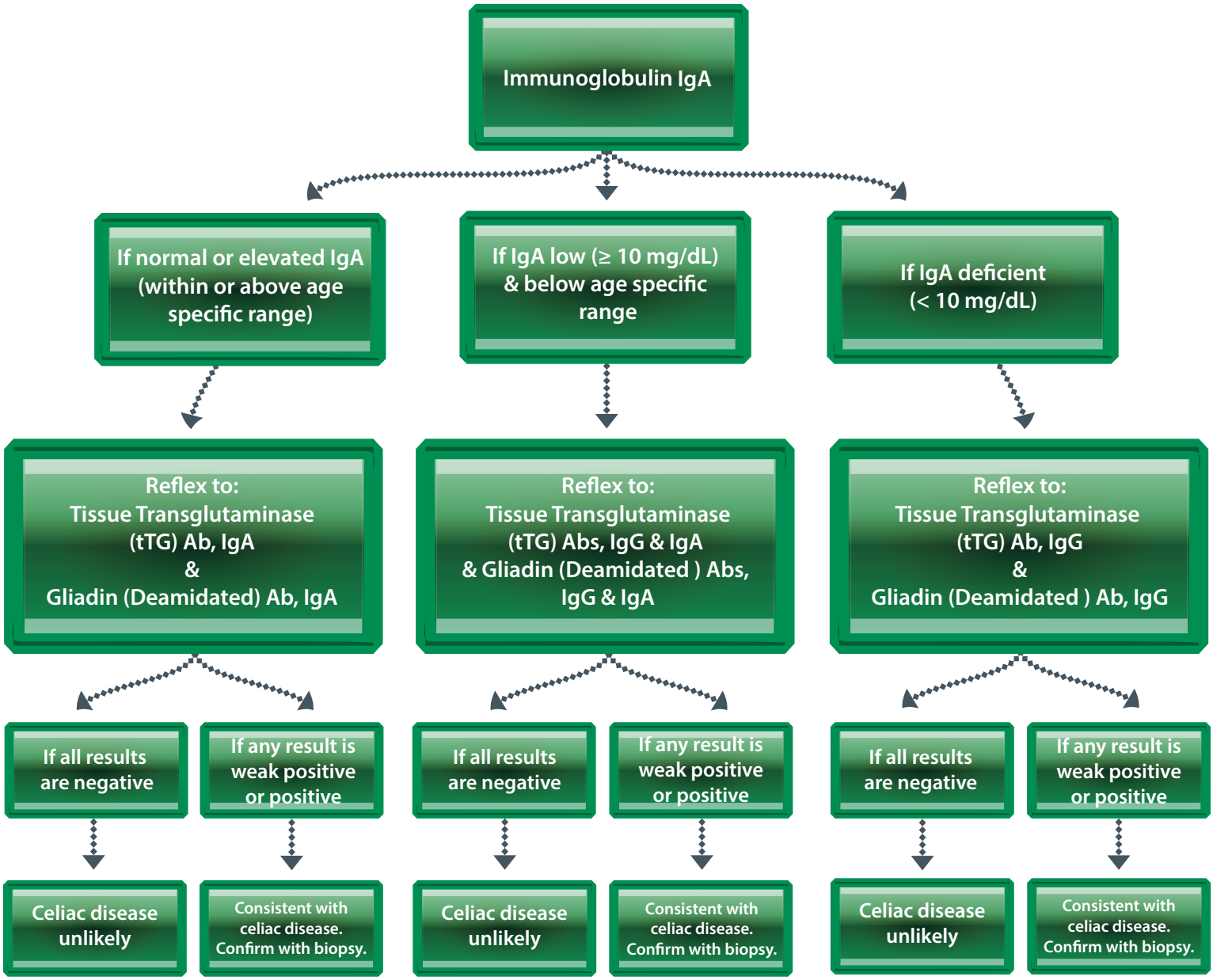
Celiac Disease Cascading Reflex



References

1. Rostom A, Murray JA, Kagnoff MF. American Gastroenterological Association (AGA) Institute technical review on the diagnosis and management of celiac disease. *Gastroenterology*. 2006; 131: 1981-2002.
2. Hill ID, Dirks MH, Liptak GS, et al. Guideline for the diagnosis and treatment of celiac disease in children: recommendations of the North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition. *J Pediatr Gastroenterol Nutr.* 2005;40:1-19.
3. Rashtak S, Ettore MW, Homburger HA, Murray JA. Combination testing for antibodies in the diagnosis of celiac disease: comparison of multiplex immunoassay and ELISA methods. *Alimentary Pharmacology & Therapeutics*. 2008;28(6):805-813.
4. Testing for celiac disease. (2009). Provider Points, 09-7351. Retrieved from http://www.celiac.nih.gov

*The CPT codes provided are based on AMA guidelines and are for informational purposes only. CPT coding is the sole responsibility of the billing party. Please direct any questions regarding coding to the payor being billed.