Specifications for Effective Health Care (EHC)  
Clinician Research Summary

Diagnosis of Celiac Disease: Current State of the Evidence

Focus of This Summary

This summary offers a comprehensive review evaluating the evidence regarding the comparative accuracy of the balance between sensitivity and specificity of different diagnostic tests and includes an overview of various methods used to diagnose celiac disease. The systematic review included 121 studies and 3100 participants, and the evidence was published from January 1990 through March 2013. The full report, including all studies and reviews, is available at www.effective-healthcare.com/cci.

Background

Celiac disease is an immunological disorder triggered in genetically susceptible individuals by ingestion of foods containing gluten. The prevalence of celiac disease in the United States has been estimated to be approximately 1% of the population. The disease is more common in women than men. Risk factors for celiac disease include family history, ataxic T, Turner syndrome, Williams syndrome, and several autoimmune diseases (e.g., type 1 diabetes). Various serologic and endoscopic tests are used to diagnose celiac disease. A serum IgA anti-endomysial antibody (EMA) test is the preferred method for diagnosis but is unreliable during the diagnostic process. Additionally, human leukemia antigen (HLA)-DQ2/DQ8 typing may be used to facilitate the diagnosis of celiac disease in strong candidates with IgA anti-endomysial antibody test results. Celiac disease can be diagnosed using celiac disease-specific serologic tests such as IgA and IgG anti-tissue transglutaminase (Tg) antibodies, IgA anti-endomysial antibody (EMA), and IgA anti-deamidated gliadin peptide (DGP) antibodies, among others. In the United States, the current gold standard is diagnosing celiac disease, but the procedure is invasive and accompanied by risk, such as perforation, bleeding, or perforation. Thus, the diagnostic recommendation is that an accurate and safe test be used.

Guidelines from the American College of Gastroenterology (ACG) recommend a single serological test strategy involving either IgA anti-EEMA (IgA anti-endomysial antibody) or IgA anti-TTg (IgA anti-tissue transglutaminase) and IgA anti-DGP (IgA anti-deamidated gliadin peptide) as the first-line strategy. In patients with other diseases, especially children with celiac disease, IgA anti-EMA and IgA anti-DGP tests are used together, and if IgA anti-EMA test results are negative, an IgG anti-EMA test may be performed. As of 2007, the ACG guidelines recommended serological testing using IgG anti-TTg and IgA anti-DGP. However, this test is not widely available, and recommendations may change with new testing techniques.

Conclusion

A recent evidence on the accuracy of tests to diagnose celiac disease supports the excellent sensitivity and specificity of IgA anti-EMA test results for the presence of celiac disease. Reduced IgA anti-EMA serologic testing reported for celiac disease-specific IgA is less than 10%, while IgA anti-DGP serologic testing is less than 10% in the general population. The overall sensitivity of IgA anti-DGP is 90% for celiac disease. However, the overall specificity of IgA anti-DGP is less than 50%. Therefore, increased IgA anti-DGP serologic testing is recommended for diagnosis. Additionally, IgA anti-DGP serologic testing can be used as a screening test for celiac disease, especially in the general population, to determine the prevalence of celiac disease.

Other Findings of the Review

- IgA anti-EEMA and IgA anti-DGP tests are known to detect celiac disease.
- IgG anti-EMA and IgG anti-DGP tests are known to detect celiac disease.
- The overall sensitivity of IgG anti-DGP is 90% for celiac disease.
- The overall specificity of IgG anti-DGP is less than 50%.
- Increased IgG anti-DGP serologic testing is recommended for diagnosis.

In special cases, where full-color figures are required to convey essential information, use a 5-color treatment as follows: equivalents of full process color plus the primary Pantone color.

Bleed: No bleed.
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**Sample banner**

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**Clinician Summary**

**Digestive System Conditions**  
**Celiac Disease**

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**Charts and tables:** Charts and tables should be in shaded boxes with rounded corners.

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**Body text:** 11-point Minion Pro with 13-point leading.

**Level 1 heads:** 14-point Myriad Pro Bold.

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**Level 3 heads:** 11-point Myriad Pro Italic.

**Run-in heads:** 11-point Minion Pro Bold.

Bullets: Square.

Hyphenation: Should be turned off.

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**Sample Title is 20-point Myriad Pro Bold**

**Head Level 1 is 14-point Myriad Pro Bold**

**Head Level 2 is 11-point Myriad Pro Bold**

**Head Level 3 is 11-point Myriad Pro Italic**

Body text is 11-point Minion Pro with 13-point leading. It should be flush left, ragged right, with no hyphenation.

- This is a sample of bulleted text with a square bullet. It should be flush left, ragged right, with no hyphenation. The text size is 11-point Minion Pro with 13-point leading.

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