

1.1 Celiac Sprue Gluten's Gut Wrench

In 1950, Dr. Willem-Karel Dicke linked wheat to celiac symptoms, noting improvement in affected children during the Dutch famine when wheat was scarce.

MIMICKING CONDITION	KEY DIFFERENTIATORS
Whipple's disease	Migratory arthralgia, weight loss , fever, lymphadenopathy. (Duodenal biopsy: PAS-positive macrophages)
Irritable bowel syndrome	Altered bowel habits without weight loss or malabsorption. (Diagnosis of exclusion)
Small intestinal bacterial overgrowth (SIBO)	Bloating, flatulence, diarrhea; may occur post-surgery or with motility disorders. (Hydrogen breath test)
Lactose intolerance	Symptoms triggered by dairy; resolves with lactose avoidance. (Hydrogen breath test, dietary trial)
Crohn's disease	May involve any part of the GI tract; skip lesions, transmural inflammation, fistulas (Endoscopy, biopsy)

Pathophys: Gluten's Epithelial Assault

What is the primary immunologic trigger in celiac?

Ingestion of gluten, a protein found in wheat, barley, and rye, triggers an immune response. The immune system attacks the small intestine, damaging the lining.

What is the genetics of Celiac?

Associated with HLA-DQ2 (90-95% of patients) and HLA-DQ8. + FH increases risk 10-20 fold.

Key enzyme involved in celiac pathogenesis?

Tissue transglutaminase (tTG). Modifies gluten peptides, increasing their immunogenicity.

Dx and Workup: Serology and Biopsy

Best initial test for suspected celiac disease?

Serologic testing: IgA anti-tissue transglutaminase (tTG) antibody. * Note, must be on gluten containing diet for accurate results.

Confirmatory test?

Small bowel biopsy. Shows villous atrophy, crypt hyperplasia, and intraepithelial lymphocytosis.

When to check IgA level?

Check IgA concurrently with tTG-IgA, as IgA deficiency can cause false-negative results. Use IgG-based testing.

When is genetic testing warranted?

When serology and biopsy are inconclusive. Negative HLA-DQ2/DQ8 effectively rules out celiac disease.

Tx: Lifelong, Strict Avoidance

Cornerstone of celiac disease management?

Strict, lifelong gluten-free diet. Avoid wheat, barley, and rye.

What is the role of dietician referral?

Essential for education on a gluten-free diet, label reading, and identifying hidden sources of gluten.

How to manage refractory celiac disease?

If persistent symptoms despite strict gluten-free diet, consider corticosteroids or immunosuppressants (e.g., azathioprine).

What supplements are recommended in Celiac patients?

Calcium, vitamin D, iron, folate, and B12, if deficient.

How is dermatitis herpetiformis managed?

Dapsone (100-200 mg/day) can provide symptomatic relief for the rash in addition to a gluten-free diet.

Complications: Intestinal Lymphoma Risk

Most serious long-term complication of celiac?

Increased risk of malignancies, particularly enteropathy-associated T-cell lymphoma (EATL).

Red flags for EATL?

New onset abdominal pain, weight loss, or GI bleeding in a patient with celiac disease. Prompt evaluation with imaging and endoscopy is crucial.

Other associated conditions?

Osteoporosis, infertility, neurologic complications (e.g., peripheral neuropathy, ataxia), and other autoimmune diseases (e.g., T1DM, thyroiditis).

Common Pitfalls: Delayed Diagnosis

Most common diagnostic pitfall?

Failure to consider celiac disease in patients with unexplained iron deficiency anemia, chronic diarrhea, or other atypical presentations.

Common dietary management error?

Inadequate adherence to a gluten-free diet due to lack of awareness of hidden gluten

sources. Patients need comprehensive dietician education.

What is a common monitoring error?

Lack of follow-up to ensure adherence to gluten-free diet and resolution of symptoms/malabsorption. Regular monitoring of tTG-IgA can help assess adherence.

What should you watch for when starting dapsone in celiac?

Hemolysis or methemoglobinemia. Monitor CBC and watch for bleed.

Small Intestine Bacterial Overgrowth: Q&A

Questions	Answers
60 yo M with hx of multiple abdominal surgeries presents with chronic diarrhea, bloating, and weight loss. Labs show low albumin, and deficiencies of vitamin B12 and vitamin D. Most likely diagnosis?	<i>SIBO</i> . Clinical presentation, history of abdominal surgeries (risk factor), and evidence of malabsorption (low albumin, vitamin deficiencies) are highly suggestive of SIBO.
55 yo F with hx of scleroderma presents with bloating and diarrhea. Hydrogen breath test shows a rise of 25 ppm at 60 minutes. Next best step?	<i>Trial of rifaximin</i> . Patient has a high pre-test probability of SIBO (scleroderma is a risk factor) and a positive hydrogen breath test. Rifaximin is the preferred initial treatment.
What is the mechanism of action of rifaximin?	<i>Inhibition of bacterial RNA synthesis</i> . Rifaximin is a minimally absorbed antibiotic that acts locally in the gut to reduce bacterial overgrowth.
65 yo M with hx of diabetes presents with bloating and flatulence. He is being treated with opioids for chronic back pain. Likely cause of his symptoms?	<i>SIBO secondary to dysmotility</i> . Both diabetes and chronic opioid use can impair gut motility, predisposing to SIBO.