

Introduction

Celiac disease (CD,) while predominantly described as a pediatric disorder, is being increasingly recognized in the adult population including the elderly.

The prevalence of CD is roughly 1% in the general Western population.

The clinical presentation is highly variable ranging from typical gastrointestinal symptoms to atypical extra-intestinal manifestations. Extra-intestinal symptoms include:

- Anemia
- Metabolic bone disease (osteopenia, osteoporosis)
- Neuropsychiatric symptoms (headache, peripheral neuropathy, ataxia, depression, anxiety)
- Transaminitis
- Hypoalbuminemia
- Hypocalcemia
- Hypophosphatemia
- Raised alkaline phosphatase

Case Presentation

HPI:

A 57 year old Caucasian male presented to the emergency department for a two year history of progressive exertional dyspnea, bilateral lower extremity edema, and fatigue. The symptoms accelerated significantly over the last few weeks. He had no prior medical history but notably had not seen a doctor in 20 years. The patient was not on any medications and had recently been unemployed as a result of his chronic symptoms impairing his ability to work.

EXAM:

T: 98.8 F P: 104 BP: 123/74 RR: 22 O2 Sat: 99% Weight: 190 lbs
Pale, thin, ill appearing gentlemen with conjunctival pallor, and 2+ pitting edema extending above the knees bilaterally.

LABS:

CBC: WBC 8.1, Hgb 3.2, Hct 14.1, platelets 757
AST/ ALT: 157/ 72, Alkaline phosphatase: 274
Albumin: 3.0
NT-Pro-BNP: 8,492
Iron studies: **See Table 1.**
Reticulocyte %: 0.8, Reticulocyte Abs: 22
Fecal occult blood test: negative

IMAGING:

CT chest, abdomen, pelvis with contrast: marked anasarca, bilateral pleural effusions, no evidence of malignancy.

Hospital Course

ER/admission:

- Hemoglobin (Hgb) 3.2, initial workup, 2 units of packed red blood cells (pRBCs)

Day 1:

- 1 unit of pRBCs, Hgb 5.9
- Echocardiogram revealing EF of 35%, new diagnosis of heart failure
- Gastroenterology & cardiology consults placed

Day 2-4:

- Intravenous iron therapy initiated, 2 more units of pRBCs, Hgb 6.2
- Endoscopy and colonoscopy (day 3) remarkable for loss of duodenal folds

Day 5 – Day 10 (hospital discharge):

- Negative tissue pathology for CD on duodenal biopsy
- **Positive IgA anti-TTG antibody >100 U/ml** (negative = <4)
- Diagnostic cardiac catheterization + subsequent PCI x 2 (once Hgb stabilized)
- Hgb 8.5 at discharge
- Discharged on gluten free diet, guideline directed medical therapy for HF and PCI, oral iron and multivitamin supplementation

Three month follow-up:

- Adhering to GFD, symptomatically improving, Hgb 9.8, AST/ALT normalized.

Table 1. Anemia panel on initial presentation.

	Patient Value	Reference Range
Hemoglobin	3.2	13.0 - 17.4 g/dL
Hematocrit	14.1	38.0 - 50.0 %
MCV	62.9	82.0 - 100.0 fL
Iron	12	45 - 160 ug/dL
TIBC	404	205 – 385 ug/dL
Percent saturation	3	20 - 55%
Ferritin	7	30.0 - 400.0 ng/mL

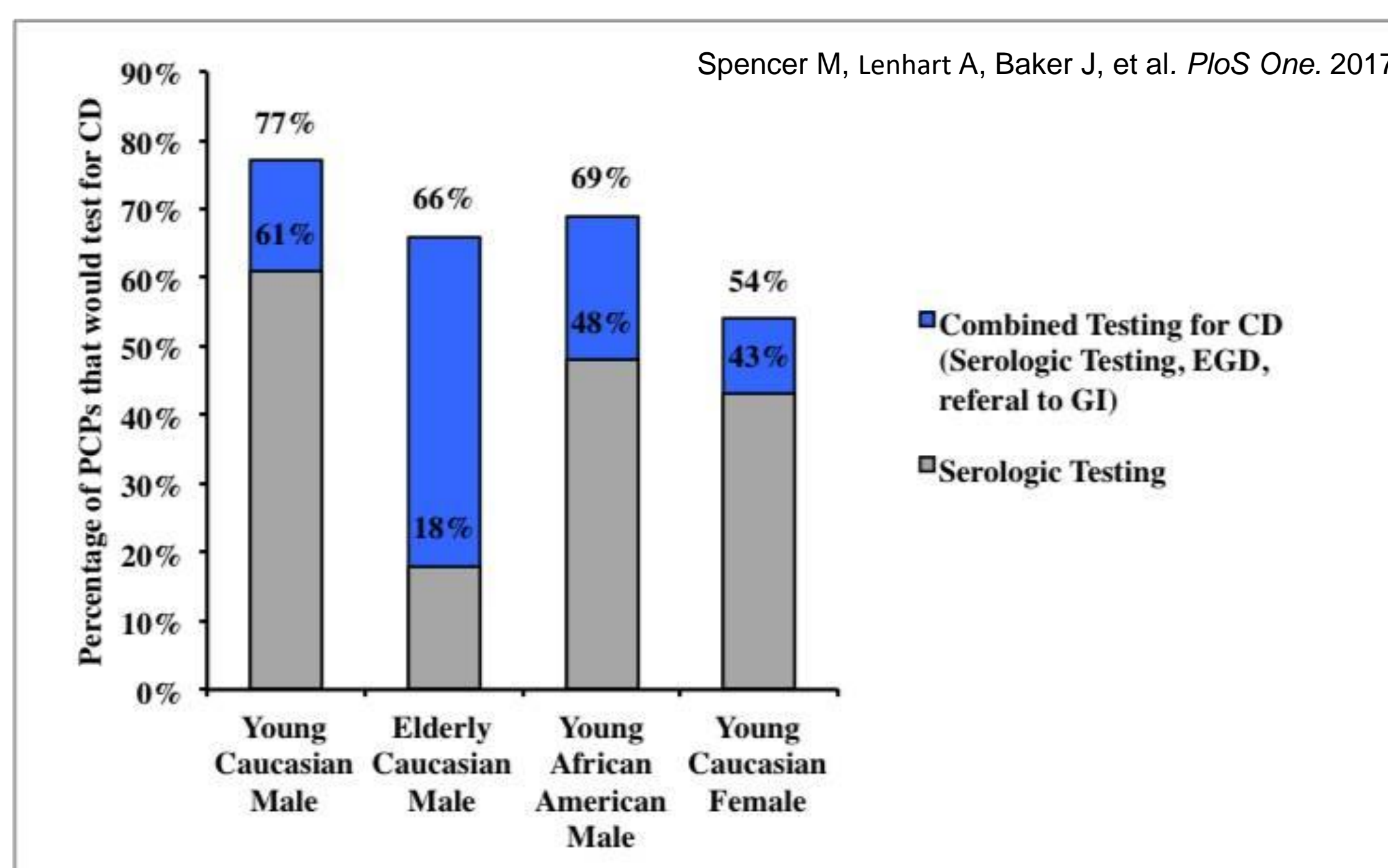


Figure 1. Proportion of PCPs that test for CD in patients with unexplained IDA; national survey results.

Discussion

Celiac disease (CD) has been described in the literature as an under-recognized cause of unexplained iron deficiency anemia (IDA). It has been reported that only half the patients with CD have typical manifestations such as chronic diarrhea and failure to thrive [3]. Furthermore, in many patients the disease can be subclinical or silent for years.

This clinical vignette demonstrates an example of atypical CD being unmasked through identification of severe IDA. Given that the hemoglobin levels were dramatically low in the setting of a strongly positive TTG antibody titer, it was inferred that this patient likely had longstanding, clinically silent CD. No other attributable sources of IDA were identified. Moreover, the patient clinically is improving on a gluten free diet.

IDA is more commonly attributed to blood loss until proven otherwise. If an adequate evaluation results in no identifiable cause of IDA, one should expand the differential to malabsorptive processes such as CD, as illustrated in this clinical vignette. Despite multiple clinical practice guidelines that recommend testing for CD in unexplained IDA cases, a recent national survey identified that primary care physician are undertesting [2]. **See Figure 1.**

Current ACG guidelines on CD testing:

- Serologic testing (IgA anti-tissue transglutaminase antibody is the single preferred serologic test over the age of two years).
- Sensitivity and specificity of the TTG-IgA for untreated CD is about 95%.
- Small bowel biopsies in patients with (+) serology OR high pre-test probability (>5%) of CD.
- Biopsy/serology disagreement does not rule out CD, but may warrant further investigation.

Take Home Points

- Celiac disease is highly variable in presentation and may manifest as subclinical disease or with extra-intestinal symptoms.
- There exist clinical practice guidelines from groups (the British Society of Gastroenterology and the American Academy of Family Physicians) that suggest testing for celiac disease in patients with unexplained iron deficiency anemia.
- It is imperative to maintain an elevated level of clinical suspicion for celiac disease in patients with unexplained iron deficiency anemia, even in the absence of typical symptoms. IDA unresponsive to hematinic therapy should also raise suspicion.

Contact

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References

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Acknowledgements

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