

# Misdiagnosed Celiac Disease: Case Report

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## ABSTRACT

The advancement of technologies including the availability of sensitive and specific serological screenings and endoscopic intestinal examinations has led to increased awareness and recognition of silent epidemic celiac disease in patients with irritable bowel syndrome in the last two decades.

The objective of this case report is to describe the importance of routine screening of celiac disease in patients with non-specific (common) intestinal symptoms, particularly those with irritable bowel syndrome.

The author reported the clinical progress of a 44-year-old Saudi male patient presented with non-specific intestinal symptoms initially misdiagnosed with irritable bowel syndrome. The investigations, including serological testing and endoscopic duodenal biopsy, revealed that the patient had celiac disease. After a course of gluten free diet his intestinal symptoms significantly improved.

This case report emphasizes the importance of thorough investigations for patients with irritable bowel syndrome to exclude celiac disease.

## Keywords

Celiac disease; Irritable bowel syndrome; Similar symptoms.

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## INTRODUCTION

Celiac disease is a multi-system autoimmune disorder which is triggered by ingestion of gluten containing food and or products (e.g., wheat, rye, and barley) in a genetically susceptible individual characterized by damage of the mucosal lining of the small intestine. It can affect any age group and is found more often in females than in males<sup>[1,2]</sup>.

## CASE PRESENTATION

A 44-year-old Saudi male, college professor was presented to the gastrointestinal (GI) clinic with a history of eleven months of abdominal bloating, cramping and episodic diarrhea without signs of GI bleeding. The symptoms started one month after cholecystectomy. He was diagnosed as irritable bowel syndrome (IBS) and received the usual IBS treatment. Although the patient had normal appetite, he lost 7 kg over the past nine months unintentionally and due to absence of response to IBS treatment and worsening of patient's symptoms, he was placed on antidepressant management. Physical assessment revealed depressed, ill-looking patient (fatigue, tiredness, and nervousness) without any further abnormalities. Laboratory results showed low hemoglobin level (13.6 mg/dl) but normal serum iron, ferritin, and folic acid. His vitamin D level was low. Liver enzymes were high. Serological testing revealed positive tissue transglutaminase antibodies (anti-t TG) Ig A (50 units). Endoscopic duodenal biopsy revealed duodenal mucosa lined by mucin-secreting cells with focal mild blunting of villi, mild increases of intra-epithelial lymphocytes with mild crypt hyperplasia and no evidence of micro-organisms or malignancy (Figs. 1, 2).

The patient was placed on gluten free diet (GFD) treatment plan. Six weeks following diet restriction, all of the patient's intestinal symptoms were improved with

an increase in hemoglobin level (14.2 mg/dl). After one year, the patient's weight was increased (he gained 6 kg) and repeated endoscopic duodenal biopsy revealed normal duodenal villi.

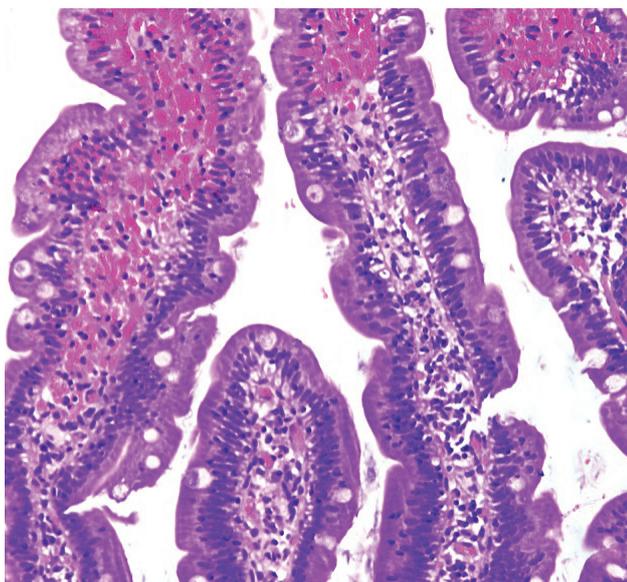
## DISCUSSION

Many patients with CD are discovered incidentally after suffering from symptoms for years before diagnosis is confirmed<sup>[2,3]</sup>. With advancement of technology and increased awareness of silent cases, the prevalence of CD (silent epidemic) continues to rise worldwide<sup>[1,2]</sup>.

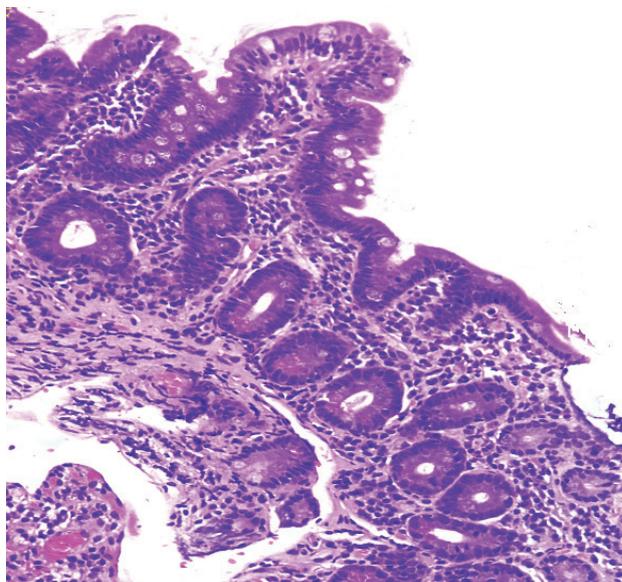
The disease usually causes a vague, non-specific wide range of intestinal and extra-intestinal symptoms. Common intestinal symptoms include abdominal pain or discomfort, bloating, diarrhea and weight loss. Extra-intestinal symptoms may include many organ symptoms with predominance of anemia, osteoporosis, and neuropsychiatric symptoms such as anxiety and depression with variable degree of severity<sup>[1,2]</sup>.

Irritable bowel syndrome is a common GI disorder that affects 10-20% of the population worldwide<sup>[4]</sup>. It has similar signs and symptoms with CD including diarrhea, abdominal discomfort, bloating or distention. The similarities in symptoms may lead to misdiagnosis of many patients with CD<sup>[5,6]</sup>. Clinical studies have also shown that many patients with IBS suffer from CD at rates 3-4 times higher than in non-IBS control subjects<sup>[7,8]</sup>.

Although data on the prevalence of CD in the Saudi adult population with IBS is scant, one study has reported the prevalence to be 9.6%<sup>[6]</sup> while it has been reported to be 2% in western societies<sup>[9]</sup>. In addition, only a few case reports of misdiagnosed CD cases in patients with IBS have been reported in the Saudi population<sup>[10,11]</sup>. In



**FIGURE 1.**  
Normal duodenal villous histology (100X).



**FIGURE 2.**  
Mild blunting of villi, mild increases of intra epithelial lymphocytes with mild crypt hyperplasia (100X).

this case report, the initial patient clinical manifestations were misdiagnosed as IBS, however, the continuation of complaints (tiredness, insomnia, weight loss and depression) with IBS therapy necessitated a visit to the GI clinic to recommend screening for CD. Serum levels of tissue transglutaminase antibodies (anti-t TG) Ig A, one of the most sensitive and specific serological tests used for diagnosing and screening of CD<sup>[12]</sup> was performed. Tissue transglutaminase antibodies was positive in the patient. However, to confirm the diagnosis of CD, duodenal endoscopic biopsy was performed (as it is the gold standard for diagnosis of CD<sup>[13]</sup>). The result revealed mild blunting of villi with mild inflammation. The degree of damage to the intestinal mucosa in patients with CD may be minimal (potential) or even normal intestinal mucosa (latent) as described by Husby *et al.*<sup>[14]</sup>.

Putting the patient on GFD (currently the sole therapeutic modality currently available for CD management)<sup>[1,7]</sup> has shown significant improvement in the patient's symptoms as confirmed by normal serological tests and histopathology. In spite of the patient's symptoms improvement after GFD, further investigations should be done before labelling the patient with IBS to rule out other alternative diagnoses as the patient has subtle abnormalities such as elevated liver enzymes and slightly low hemoglobin.

Because patients with CD are at high risk for developing life threatening complications such as small bowel adenocarcinoma, and because many of the autoimmune diseases share a common genetic basis with CD, which has a high prevalence (almost 5%) in such diseases, several studies<sup>[1,2,9,15,16]</sup> have recommended that CD differential diagnosis should be considered in patients with IBS as well as type 1 diabetes, iron deficiency anemia and autoimmune thyroid disorder as a routine practice.

### CONCLUSION

This case report emphasizes the importance of thorough investigations for patients with IBS to exclude CD.

### Conflict of Interest

The author has no conflict of interest.

### Disclosure

The author did not receive any type of commercial support either in forms of compensation or financial for this study. The author has no financial interest in any of the products or devices, or drugs mentioned in this article.

### Ethical Approval

Obtained.

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## تشخيص خاطي لمرض السيلياك (حساسية القمح)

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### المستخلص.

ساعد التقدم التكنولوجي من خلال توفر تحاليل الامصال المخبرية الدقيقة والحساسة والمنظار المعوي الى معرفة واكتشاف حالات كثيرة لمرض السيلياك، ونظراً لتشابه أعراض مرض السيلياك مع الاعراض العامة لاضطراب القولون العصبي، ننشر هنا حالة مريض يبلغ من العمر ٤٤ عاماً شُخِّصت على أنها اضطراب القولون العصبي ابتداءً، ثم اكتشف انها حالة سيلياك. وتم علاج الحالة بواسطة الحمية الغذائية، فزالت جميع الأعراض والمشاكل الصحية التي عانى منها المريض، هذه الحالة وغيرها من الحالات الأخرى تؤكد على ضرورة الت على عمل تحاليل فحص مرض السيلياك للمرضى المشتبه إصابتهم باضطرابات في القولون العصبي.