Family Medicine and Community Health
COMMENTARY

Adult-onset celiac disease for the primary care physician

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Abstract

Celiac disease is a common autoimmune condition with a prevalence of 1%–2%. In recent years there has been a paradigm shift in management from tertiary care into the community. With a wide array of manifestations, including nonspecific and extraintestinal symptoms, this disorder can be difficult to diagnose, prolonging morbidity for patients.

This review article aims to augment the primary physician's knowledge of the common presentation, diagnosis, management, and follow-up of this disease.

Keywords: Celiac disease, primary care, diagnosis, management

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Received 18 April 2017;
Accepted 9 June 2017

Introduction

Celiac disease (CD) is an immune-mediated chronic small intestinal enteropathy [1, 2]. Ingestion of gluten (a protein found in wheat, rye, and barley) initiates a T-cell-mediated response leading to small bowel mucosal destruction and villous atrophy. Continued exposure to gluten can lead to long-term morbidity with both small bowel and extraintestinal manifestations, the most serious of which include neuropathy, adverse pregnancy outcomes, and lymphoma [2]. Chronic diarrhea, abdominal pain, fatigue, and depression are common sequelae with a detrimental effect on patients' quality of life [3].

Despite the growing awareness of this lifelong disease, due in part to media attention and fad diets, this is not a novel condition. CD is the most common autoimmune disorder [4], with a prevalence of 1%–2% [1, 2, 4, 5]. With increasing awareness and rates of diagnosis, this is thought to be an underestimate [6], with some studies referring to CD as a public health problem [7].

Historically, CD has been considered a childhood-onset disease with a typical presentation of failure to thrive with malabsorptive symptoms. However, there is increasing understanding that the clinical (and subclinical) onset can occur in any age group, including adulthood.

In recent years there has been a paradigm shift in management from tertiary care into the community [8]. Because of the wide spectrum and subtle, often extraintestinal signs of adult-onset CD, primary care physicians are perfectly positioned for early diagnosis and subsequent management.

This review aims to augment the primary care physician's knowledge of adult-onset CD by providing an overview of the clinical presentation, diagnosis, and subsequent management in an attempt to improve the outcome for patients.

Family Medicine and Community Health 2017;5(3):211–214
www.fmch-journal.org DOI 10.15212/FMCH.2017.0120

When should a diagnosis of adult-onset CD be considered?

CD is often underdiagnosed in the community owing in part to the wide array of nonspecific symptoms and the historical myth that CD is only a disease of childhood, or is a functional disorder.

To dispel common myths, an international multidisciplinary task force, the Oslo group, was set up and subsequently proposed a change to the classification of CD [9]. Patients presenting with malabsorptive symptoms and sequelae had previously been termed 'typical.' However, with the understanding that this may not be the presentation in most patients, the Oslo group propose this now be termed 'classical.' Nonclassical CD therefore presents with predominantly extraintestinal symptoms. A further subdivision of 'subclinical CD' is also proposed, which includes those patients who may not have overt symptoms but have positive serological test results and villous atrophy at biopsy [4, 9].

It is this subgroup of patients, those with nonclassical and subclinical CD, who are most at risk of morbidity though delayed diagnosis. Large multicenter studies have shown delays of up to 12 years are commonplace [1, 10]. Delays can be due to nonrecognition of subtle symptoms, generic management following abnormal blood test results (e.g., iron replacement for anemia without appreciating the underlying cause), or misdiagnosis of irritable bowel syndrome (IBS). A recent primary care–based cross-sectional study found the prevalence of CD in IBS patients to be as much as 4.6% [11]. National Institute for Health and Care Excellence (NICE) guidelines recommend that CD serological tests should be performed before a diagnosis of IBS is made [3].

A low threshold for CD screening is needed to identify patients with CD. The 2009 NICE guidelines [3] identify patients for whom screening is advised (Table 1). The physician should pay special attention to the extraintestinal manifestations and nonspecific symptoms to prevent delays in diagnosis.

Making the diagnosis

A number of serological screening tests are available, including tests for antigliadin, antireticulin, and anti-endomysial antibodies. However, these have now been superseded by the anti-tissue transglutaminase (anti-tG) test, which has higher sensitivity and specificity [1]. NICE recommends the anti-tTG test as a first-line test [3].

It is important to note that false negatives can be obtained if the patient is on a gluten-free diet (GFD), and therefore testing should be performed only while gluten is being consumed [1, 3]. Furthermore, the anti-tTG test is a screening test only, and subsequent diagnostic intestinal biopsy is recommended by NICE. Clinicians need to be mindful that CD patients have a 10-fold risk of selective IgA deficiency; therefore the anti-tTG test results will be falsely negative in this subgroup of patients [12]. Persistent symptoms with negative anti-tTG test results should be referred for further investigation.

Table 1. National Institute for Health and Clinical Excellence recommendations for screening in patients [1, 3, 4]

Clinical features	Comorbidities
Persistent abdominal pain, bloating distention, or vomiting	Irritable bowel syndrome
Chronic diarrhea or constipation	Type 1 diabetes
Chronic fatigue	Autoimmune thyroid disease
Dermatitis herpetiformis	Autoimmune liver disease
Iron-deficiency anemia	Down syndrome
Osteopenia or osteoporosis	First-degree relatives with celiac disease
Peripheral neuropathy	Selective IgA deficiency
Recurrent aphthous stomatitis	
Unexplained weight loss or anorexia	
Mood disorders – depression or bipolar disease	
Unexplained alopecia	

False positive anti-tTG test results have been documented; therefore histological diagnosis is essential before commencement of a poorly tolerated treatment regimen of a GFD, with its financial and social implications [1].

Management

Following positive histological diagnosis, patients should commence a GFD. This is often challenging, as gluten is in many processed foods. Commercially available gluten-free substitutes often have higher carbohydrate, lipid, and sugar content than their gluten-containing counterparts [13]. Furthermore, commencement of a GFD will alleviate intestinal symptoms of diarrhea, bloating, and cramping, leading to increased food consumption and rebound weight gain. One large study [14] found 20% of patients were overweight and 11.5% were obese just 3 years after GFD commencement despite having normal BMIs before diagnosis.

Conversely, patients can suffer with restricted social activities and deteriorating mental health, leading to social exclusion and worsening quality of life [13].

Many struggle with the diet, leading to micronutrient deficiencies [3], and referral to a specialist dietician is therefore advised [1, 3] as is encouragement to join support groups, such as Coeliac UK, for further information and support.

Patients should be referred for bone mineral density testing [3], and should be evaluated for common micronutrient deficiencies, including vitamin B_{12}, folate, and vitamin D deficiencies [13]. Subsequent replacement therapy may be required.

Follow up

Following diagnosis, the primary care physician must continue to engage with the patient [1, 9, 15]. A yearly review appointment should be offered [3, 15], where nutritional status, diet adherence, and mental health should be assessed. Strict GFD will cause anti-tTG levels to fall; diet adherence can therefore be monitored with follow up anti-tTG testing. Vaccinations against encapsulated bacteria as well as influenza should also be offered [3, 9, 13]. It should be noted that, even with good adherence, irreversible mucosal damage may predate commencement of a GFD. The clinician should therefore enquire about symptoms of CD complications, including neuropathy, lymphoma, and osteoporosis.

Conclusion

This article has set out to inform and refresh the primary care physician's knowledge of the symptoms and current guidelines for management of CD. In summary, a low threshold is required for detection of CD because of the array of presenting symptoms. The nonmedicalized, nonpharmacological treatment should not deter the clinician from considering CD in lieu of extraintestinal presentations, nor should the follow-up be ignored. Morbidity resulting from delayed diagnosis, or indeed commencement of the GFD, has a significant effect on quality of life, and active follow-up is encouraged, with continued support and yearly reviews.

Conflict of interest

The author declares no conflict of interest.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Significance statement

Increased public awareness, diagnostic and management algorithms have changed in recent years. This article serves as a general overview on the subject of coeliac disease, as well as an update on diagnostic tools and management strategies. What may not be as widely known, is the follow up that these patients require, and this article aims to highlight the some of these key aspects.

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