Bariatric Procedures Unmasking Celiac Disease

Keywords: Celiac disease; Bariatric surgery

Abstract

Celiac disease is being recognized more frequently but often remains undiagnosed. Celiac disease patients are increasingly obese. Major operation patient with celiac disease may cause symptoms which lead to the diagnosis, termed “unmasking.” We report three patients undergoing bariatric procedures which led to unmasking.

Three patients undergoing bariatric procedures for morbid obesity were subsequently diagnosed with celiac disease. A 42-year-old female underwent gastric bypass. Her body mass index was 77 preoperatively and open gastric bypass with a 150 cm Roux Limb was performed. At 18 months her body mass index was 51 and she had no diarrhea. A malabsorptive revision moved the Roux Limb connection to 60 cm proximal to the cecum. One year later she had a body mass index of 36 and diarrhea. Persistent diarrhea and weight loss in the following two years led to serologic diagnosis of celiac disease. On a gluten-free diet diarrhea improved and her weight increased 6 kg. A 30-year-old female underwent gastric band. Her body mass index was 48 preoperatively. After multiple adjustments a band slip repair was performed at two years and the band was removed at four years. Body mass index was 42 at that time. Within a few months she developed early satiety, abdominal pain and distension, and hepatomegaly. Serology and histology diagnosed celiac disease and a gluten-free diet was instituted. A 36-year-old female underwent biliopancreatic diversion. Her body mass index was 48 preoperatively and decreased to 22 in two years. Persistent diarrhea led to serologic evaluation for celiac disease. She was started on a gluten-free diet and her body mass index increased to 27 at five years and 30 at ten years postoperatively.

Celiac disease should be suspected and evaluated in patients who develop suggestive symptoms after bariatric procedures, including those associated with malabsorption.

Abbreviations

CD: Celiac Disease; GFD: Gluten-Free Diet; GBP: Gastric Bypass; BMI: Body Mass Index; PBD: Pancreatico Biliary Diversion; DH: dermatitis herpetiformis

Introduction

Celiac disease (CD) is a disorder characterized by intestinal inflammation and villus atrophy induced by ingestion of rye, wheat and barley in genetically susceptible individuals. The prevalence of CD is approximately 0.7% [1]. The classic clinical presentation of CD is chronic diarrhea, malabsorption and weight loss; however, up to 13% of patients are overweight [2,3]. Furthermore, a gluten-free diet (GFD) helps patients regain lost weight and may also cause patients to become overweight [3-5].

CD is often silent and undiagnosed. Patients with undiagnosed CD may become symptomatic following operation. Subsequent evaluation then leads to the diagnosis, termed “unmasking” [6]. Initial reports of this phenomenon occurred following upper gastrointestinal procedures such as fundoplication and gastrectomy [6]; however, unmasking has been subsequently described following a variety of intraabdominal and extraabdominal procedures [7-14].

Methods

We performed a retrospective review of 512 adult patients (>19 years of age) diagnosed with CD over a 22-year period from 1990 to 2012 at our institution [15]. We identified three patients who had the initial diagnosis of CD made following a bariatric procedure. During this period 1,884 bariatric procedures were performed at our institution.

Results

A 42-year-old female underwent gastric bypass (GBP). Her body mass index (BMI) was 77 preoperatively and open GBP with a 150 cm Roux Limb was performed. Intestinal histology was not abnormal. Eighteen months following GBP her BMI was 51 and she had no diarrhea. A malabsorptive revision was performed, moving the Roux Limb connection to 60 cm proximal to the cecum, shortening the common channel. One year after revision, she had a BMI of 36 and had developed diarrhea. Persistent diarrhea, malabsorption of fat soluble vitamins, and weight loss (BMI 30) two years after revision led to serologic (antigliadin antibody IgA 32EU, >25 positive) diagnosis of CD. On a GFD, her diarrhea improved and her weight increased 6 kg back to a BMI of 32. Repeat intestinal biopsy at that time revealed normal histology. Eight years later she has maintained a BMI of 28.

A 30-year-old female underwent placement of a gastric band. Her BMI was 46 preoperatively. After multiple adjustments a band slip repair was performed two years later. The band was eventually removed at four years after placement. BMI was 42 at that time. Within a few months she developed early satiety, abdominal pain and distension and hepatomegaly. Serology (tissue transglutaminase IgA 74 U/ml (normal <30) and IgA 343 mg/dl) and histology (villous blunting) led to a diagnosis of CD. A GFD was instituted and her symptoms improved. Her BMI was 43 one year later.

A 36-year-old female underwent pancreatico biliary diversion (BPD) at an outside institution. Her BMI was 48 preoperatively. Her BMI decreased to 22 over the next year. This extreme weight loss combined with her persistent, severe diarrhea led to serologic (negative antigliadin antibody IgA (3 U/ml) and IgG (0.9 U/ml)

itching, excoriation, hyperpigmentation and symmetrically grouped intestinal symptoms [18]. One patient was diagnosed two years postoperatively. The majority of DH patients do not have associated symptoms [20]. DH occurs in 5% of CD patients, but the majority of DH patients do not have associated intestinal symptoms [18]. One patient was diagnosed two years postoperatively with mini-gastric bypass after a one-year history of intermittent itching, excoriation, hyperpigmentation and symmetrically grouped papulovesicles on exterior surfaces. The diagnosis was confirmed by serology and skin biopsy. GFD resolved the lesions. The other patient developed pruritic eruptions and plaques one and a half years after gastric stapling. The diagnosis was confirmed by skin biopsy and serology. The cutaneous lesions resolved on a GFD.

In conclusion, celiac disease and related disorders should be suspected and evaluated in patients who develop suggestive symptoms after bariatric procedures. This includes patients with malabsorption associated with DH.

References

