CLINICAL VIGNETTE

Gastric Adenocarcinoma in a Patient with Gastric Bypass

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Introduction

Gastric cancer was the fifth most common cancer worldwide in 2017[1] and is known for its late presentation, aggressiveness, and high mortality. When coupled with the unique anatomical modifications of various bariatric procedures, the diagnostic and treatment process becomes even more complex. With obesity and bariatric surgery rates rising worldwide, it is important for both physicians and patients to understand the unique risks and diagnostic difficulties of a malignancy occurring in the surgically-altered gastrointestinal tract. Presented here is the case of a 62-year-old woman with a history of Roux-en Y gastric bypass (RYGB) who developed gastric adenocarcinoma in the excluded stomach.

Case Report

A 62-year-old woman with a history of type 2 diabetes, hyperlipidemia, hypertension, GERD well-controlled on a proton pump inhibitor, and a RYGB ten years prior presented to her primary care physician with concerns regarding weight gain and obesity. Her body mass index was 31 kg/m^2. A diet and exercise regimen was discussed, with a planned goal of approximately 1-2 pounds of weight loss per week. Additionally, the patient made plans to join Weight Watchers. Her past medical history was otherwise notable for anemia secondary to a gastrointestinal bleed in the context of high-dose NSAID use the previous year, which resolved with discontinuation of NSAIDs. She was up to date on her routine adult health maintenance including a colonoscopy and endoscopy within the last year. She had no family history of gastrointestinal malignancy and no personal history of tobacco or alcohol use.

She continued to follow up for the next several months, reporting excellent compliance with her Weight Watchers diet and exercise regimen. She steadily lost weight at a rate of approximately 1-2 pounds per week, with subsequent improvement of her diabetes and blood pressure.

Approximately five months after starting her weight loss regimen, she presented with severe abdominal pain and vomiting of several days duration. She was sent to the emergency room where a CT abdomen revealed a mass in the excluded stomach. She was ultimately diagnosed with metastatic gastric adenocarcinoma. Her condition deteriorated and she died two months later.

Discussion

RYGB remains one of the most commonly performed bariatric procedures[2] and has been practiced for over fifty years. During that time, the percentage of patients worldwide who are overweight and obese has increased dramatically, and bariatric surgery remains one of the only effective means of definitively treating obesity and its complications.

Conversely, gastric cancer after bypass surgery is rare with the first case study reported in 1991, nearly 25 years after the first RYGB.[3] Only 25-30 cases have been published from 2007-2014. Interestingly, in these patients, gastric cancer generally occurs in the excluded stomach, the most difficult area to evaluate endoscopically.[4] It is not known whether this is due simply to the fact that the majority of the stomach is excluded after RYGB, or if it may be related to a more subtle consequence of the procedure, as the majority of excluded stomachs after RYGB demonstrate chronic gastritis.[5] The pathophysiology is not understood but may be related to gastric stasis, the absence of acid-neutralizing food, chronic inflammation leading to dysplasia, or chronic reflux.

Clinical presentation of gastric cancer is generally vague, including bloating, nausea, weight loss, and abdominal distention-- all of which are common symptoms after gastric bypass itself, and as such the diagnosis of often delayed.[3,4.] Endoscopy is the most sensitive tool to diagnose premalignant and malignant lesions, but after RYBP the view of the stomach is generally limited to the gastric pouch, with difficult and unreliable access to the excluded stomach. CT scans are less sensitive for early lesions, and Barium studies have a higher rate of false positives. Access is more reliable in specialized academic centers with physicians experienced in retrograde gastroscopies, double balloon enteroscopies, and percutaneous endoscopies.

Conclusion

Our patient's late diagnosis is consistent with the literature regarding adenocarcinomas in the excluded stomach having a 40% mortality rate at four months.[3] In our patient, the diagnosis was further delayed as the patient reported intentional weight loss through diet and exercise. In summary, the possibility of gastric cancer arising in the excluded stomach should be considered in patients with RYGB, and referral to an experienced endoscopy center able to access this part of the anatomy

should be done in the presence of ongoing gastrointestinal symptoms.

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