Laparoscopic adjustable gastric banding (LAGB) is commonly performed for weight reduction in the morbidly obese population. Morbidly obese patients often suffer from many co-morbid conditions including diabetes. Diabetic patients may suffer from symptomatic or asymptomatic gastric dysmotility resulting in intermittent gastric distention. Following gastric banding, in the early postoperative period, patients may be unable to decompress trapped air in the stomach and may develop severe acute distention with associated risk for catastrophic results. We present the case of a diabetic patient who underwent an uneventful LAGB but returned to the hospital with severe abdominal and back pain. Following the diagnosis of acute gastric distention using an abdominal roentgenogram, the stomach was decompressed using a naso-gastric tube. Following initiation of promotility agents, the patient was successfully discharged home without symptoms. A high index of suspicion, prompt diagnosis and appropriate management can prevent complications of acute gastric distention in this patient population.

Key words: Gastric banding, laparoscopic, acute gastric distention, diabetes, morbid obesity, bariatric surgery

Introduction

Since FDA approval of the Lap-Band® (Inamed, Santa Barbara, CA) device in June 2001, the number of laparoscopic adjustable gastric bandings (LAGBs) performed in the United States has grown exponentially. As a result, in addition to learning about the positive results of gastric banding, surgeons and patients are also encountering many previously unrecognized complications. Hereafter, we present the case of a diabetic patient who underwent an uneventful LAGB, but later returned with an acute episode of severe gastric distention, requiring immediate decompression.

Case Report

The patient is a 66-year-old morbidly obese woman. She weighed 122.3 kg with body mass index 47.8 kg/m². Her co-morbid conditions included increasing type 2 diabetes, hypertension, hypercholesterolemia, and arthritis. She had failed to lose weight with non-operative management. She thus underwent an uneventful LAGB and concurrent cholecystectomy in June 2003. The routine upper gastrointestinal (GI) contrast study within 24 hours of the operation revealed free flow of contrast through the band. The patient was started on a liquid diet and discharged from the hospital on postoperative Day 3 after adjustment of her oral medications.

On postoperative Day 8, she was seen for follow-up and found to be entirely symptom-free with no dysphagia while on a liquid diet. On postoperative Day 10, the patient reported acute abdominal distention with severe left upper quadrant and back
pain. She was seen in the emergency department and the diagnosis of acute gastric distention was made on plain roentgenogram of the chest and abdomen (Figure 1).

Immediate decompression of the stomach was accomplished by insertion of a naso-gastric (NG) tube in the emergency department (Figure 2). She was admitted for intravenous hydration and initiation of promotility agents. After a failed attempt at early removal of the NG tube, the patient was placed on maximum dose combination of metoclopramide and erythromycin.\textsuperscript{1} After a 72-hour period of intravenous treatment, the NG tube was removed and the patient was successfully placed on oral metoclopramide only. The patient was discharged home and has since had an uneventful recovery.

**Discussion**

Diabetes is one of the most common co-morbidities among the morbidly obese.\textsuperscript{2} The incidence of gastric dysmotility in diabetic patients is reported to be 30-65\%.\textsuperscript{3,4} Compared to patients with type 1 diabetes, patients with type 2 diabetes are reported to have a lower but still substantial incidence of gastric dysmotility.\textsuperscript{5} Although patients may report several upper GI symptoms, only abdominal bloating/fullness has been shown to be associated with slower gastric emptying.\textsuperscript{2} These non-specific upper GI symptoms may also be attributed to several other GI pathologies. Many patients with even severely abnormal gastric emptying may be asymptomatic or may experience transient alterations in GI function with potentially reversible metabolic abnormalities.\textsuperscript{6} Unless gastric emptying studies are performed in all diabetic patients who are being considered for gastric banding, it is likely that many patients with unknown sub-clinical gastric dysmotility undergo gastric banding.

In the early postoperative period, due to significant inflammation and edema, the passageway through the gastric band may be very tight. This condition results in slow passage of liquids through the band. The same process often results in the inability to decompress trapped gastric air (i.e. belching). The associated gastric distention may be even more pronounced in patients using continuous positive airway pressure (C-PAP) or bi-level positive airway pressure (bi-PAP) for treatment of obstructive sleep apnea.\textsuperscript{7} In most patients, trapped gastric air with resulting gastric distention rarely results in serious consequences. In fact, in our first 209 cases, there were 41 patients (19.6\%) with diabetes and the presented case is the only case (an incidence of 2.4 \%) that led to clinical symptoms requiring immediate intervention.