Case report

Roux-en-Y gastric bypass for lower esophageal submucosal cancer in an obese diabetic patient

Abdullah M. Almulaiﬁ, M.D. a,*, Wei-Jei Lee, M.D., Ph.D. a, Pok E. Hong, M.D. b

a Department of Surgery, Min-Sheng General Hospital, National Taiwan University, Taoyuan, Taiwan
b Department of Surgery, University Malaya Medical Center, University of Malaya, Malaysia

Received April 12, 2014; accepted April 15, 2014

Keywords: Barrett’s esophagus; Esophageal cancer; Laparoscopic Roux-en-Y gastric bypass; Metabolic surgery

Obesity is becoming an epidemic health problem and has been identified as an independent risk factor for the development of gastroesophageal reﬂux disease and Barrett’s esophagus, which increases the incidence of esophageal cancer (EsC) [1]. Routine esophagogastroduodenoscopy (EGD) before bariatric/metabolic surgery has a high diagnostic yield and it can alter or delay the surgical management in 4.9–9.4% of cases [2,3]. We report a case of early EsC in an obese diabetic patient treated with laparoscopic Roux-en-Y gastric bypass (LRYGB).

Case presentation

A 52-year-old male, nonsmoker, body mass index (BMI) 30.6 kg/m², with hypertension and poorly controlled type 2 diabetes mellitus (T2DM) for 4 years. His glycated hemoglobin (HbA1c) was 7.6% with the use of oral antidiabetic drugs. He had no history of dysphagia or epigastralgia. EGD showed a noncircular segmental polypoid tumor 2-cm above the esophagogastric junction (EGJ) suggesting an early lower EsC (Fig. 1). Biopsy conﬁrmed a moderately differentiated adenocarcinoma. Computed tomography scan revealed neither lymph node nor distant organ metastasis. Endoscopic ultrasonography (EUS) showed a tumor involving the submucosa and no regional lymph nodes, which was compatible with the diagnosis of lower EsC, clinical stage IA T1b N0 M0.

The case was discussed at a multidisciplinary oncology meeting, and it was decided to perform a Roux-en-Y gastric bypass for the control of his obesity and T2DM in association with tumor resection. With a 5-port approach, we performed a distal esophagectomy 7-cm above and 4-cm distal to the EGJ with linear cutting staplers (endo-GIA, blue cartridge, Tyco) under endoscopy guidance with inferior mediastinal and abdominal lymph node dissection. A Roux-en-Y esophagojejunostomy was performed, using a 25-mm circular stapler with a transorally introduced anvil. Reconstruction was completed with a 150-cm Roux limb and 70-cm biliopancreatic limb in a retrocolic and retrogastric fashion. Histopathologic examination of the resected specimen revealed a submucosal moderately differentiated adenocarcinoma arising from Barrett’s esophagus with no lymph node involvement (0 / 15) and both section margins were >1 cm free of tumor (TNM stage pT1b N0 Mx) (Fig. 2). Operation time was 240 minutes, and intraoperative estimated blood loss was about 50 mL. The postoperative course was uneventful, and the patient was discharged on the 10th postoperative day. The postoperative upper gastrointestinal series did not show any leak or stenosis (Fig. 3). At 6-month follow-up his weight had decreased from 82.3 kg to 70 kg and BMI from 30.6 kg/m² to 26 kg/m²; his HbA1c improved from 7.6% to 6.1% without any diabetic medications.

Discussion

There have been several cases of gastric pathology reported after preoperative EGD before bariatric surgery,
such as gastric gastrointestinal stromal tumors and early gastric cancer [4]. We report the first case, to our knowledge, of early nonsymptomatic lower submucosal EsC to be discovered before surgery that was laparoscopically resected in conjunction with performing a gastric bypass procedure. EsC occurs at a rate 20 to 30 times higher in China than in the United States [5]. The incidence of EsC in Taiwan is between 0.11 and 0.49 per 100,000-year [6]. Barrett’s esophagus is clearly recognized as a risk factor for EsC and dysplasia remains the only factor useful for identifying patients at increased risk for the development of lower EsC in clinical practice [5,7]. Earlier detection and a more aggressive and individualized therapeutic surgical approach have significantly improved the survival rate in patients with EsC [8].

When the result of EGD was reported, considerable discussion was undertaken regarding the appropriate strategy. A purely oncological procedure was seriously considered, but it was thought that it would be even better if we could treat the patient’s metabolic disorder simultaneously. We considered Roux-en-Y reconstruction as the best choice. The retrocolic, retrogastric approach was preferred to decrease the tension over the esophagojejunostomy anastomosis. LRYGB is being performed widely as a bariatric and metabolic procedure with good results for both weight loss and resolution of the metabolic disorder. Most patients with T2DM achieve excellent glycemic control after LRYGB [9,10].

Conclusion

This is the first case to be reported of early EsC, discovered before metabolic surgery that was treated laparoscopically in conjunction with a RYGB. Despite the short follow-up, LRYGB was presumably to have maintained both good oncologic and metabolic results for this patient. EGD is an important investigation in the preoperative evaluation of patients undergoing bariatric/metabolic surgeries to detect abnormalities, which may alter the treatment approach, especially in China where the incidence of EsC is so high [3,11,12].

Disclosures

The authors have no commercial associations that might be a conflict of interest in relation to this article.

References


