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Case Report

Early Gastric Cancer found at Preoperative Assessment for Bariatric Surgery

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An association between gastric cancer and obesity has been suggested in large epidemiologic series. We present a 61-year-old lady with BMI 48.7 kg/m², who underwent preoperative work-up for Roux-en-Y gastric bypass. Her endoscopy showed a depressed lesion at the incisura angularis, suggesting early gastric cancer. The biopsy confirmed well/moderately-differentiated adenocarcinoma. The surgical approach was subtotal gastrectomy leaving only part of the fundus, and was performed on an oncological basis, with lymphatic D2 dissection. The gastro-enterostomy was 1.5 cm wide, and was constructed closer to the greater curvature over a 12-Fr Fouchet tube. The reconstruction was in a Roux-en-Y fashion, but the alimentary limb was 150 cm long. Despite the short follow-up, the way the surgery was conducted presumably maintained both oncologic and bariatric determinations.

Key words: Gastric cancer, bariatric surgery, morbid obesity, endoscopy, Roux-en-Y

Introduction

Association between cancer and obesity has been widely shown in large epidemiologic series. While colon, prostate, endometrium, kidney, gallbladder and postmenopausal breast cancer in women are well-known to be associated with obesity, other sites such as stomach, liver, thyroid and lung are suggested to be linked to obesity but the question of higher prevalence is still under investigation.[1] This association with malignancy is one of the reasons why a wide list of blood tests, ultrasound and esophagogastroduodenoscopy (EGD) is indicated prior to surgery, and is performed routinely as preoperative assessment for bariatric surgery in most centers. Adenocarcinoma has been described in the gastric pouch after vertical banded gastroplasty and gastric banding, and in the bypassed stomach after Roux-en-Y gastric bypass RYGBP.[2-6] As more bariatric operations are being performed each year, it is important that the surgeon is aware of potential malignancies involved with obesity.

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Case Report

A 61-year-old lady, with BMI 48.7 kg/m², underwent preoperative work-up for bariatric surgery, and the technical option was for RYGBP. She weighed 137.2 kg and was a type 2 diabetic and hypertensive, and was on anti-iflamatory drugs for lower limb articular pain. Her blood tests were normal (hemogram, coagulation, renal and hepatic tests), as well as abdominal ultrasound scan, respiratory function, and cholesterol.

Her endoscopy showed a depressed lesion in the incisura angularis, 2.5 cm in diameter, with well-defined edges, and shallow central depression without ulceration, suggesting early gastric carcinoma (Figure 1). Biopsy was taken and histologically showed well/moderately-differentiated adenocarcinoma. An abdominal CT scan was done, and no metastatic disease could be seen, as well as no gastric wall thickening or infiltration.

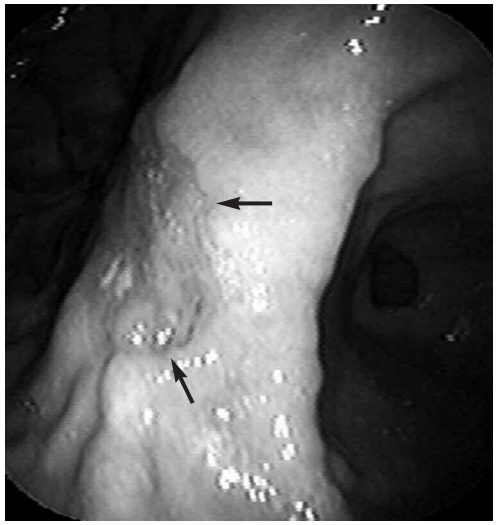

Figure 1. Endoscopic view of early gastric cancer (arrows) at incisura angularis.

The surgical team then chose to change the initial surgical technique. A longitudinal middle-line laparotomy was the access approach, and a subtotal gastrectomy leaving only a small part of the fundus was performed on an oncological basis, with lymphatic D2 dissection. The gastro-enterostomy was 1.5 cm wide, and constructed closer to the greater curvature, using a 12-Fr Fouchet tube inside it. The reconstruction was in a Roux-en-Y fashion, but the distance between the gastro-enterostomy and the entero-enterostomy (alimentary limb) was 150 cm long (Figure 2). We chose this reconstruction because it was intended to offer oncological cure and a "bariatric surgery" weight-loss evolution. The surgical specimen showed a moderately differentiated adenocarcinoma, with depth to muscularis mucosae, well-differentiated in a few tubular areas, and free of tumor in 23 dissected lymph nodes (Figures 3 and 4). The conclusion was a type IIc early gastric adenocarcinoma.

At 6 months after surgery, the patient is alive, has a restricted-volume ingestion capability, lost weight in the proportions expected as if she had had a conventional RYGBP (after 6 months, 33 kg lost and BMI 36.8 kg/m^2), and is free of evidence of cancer recurrence in follow-up examinations.

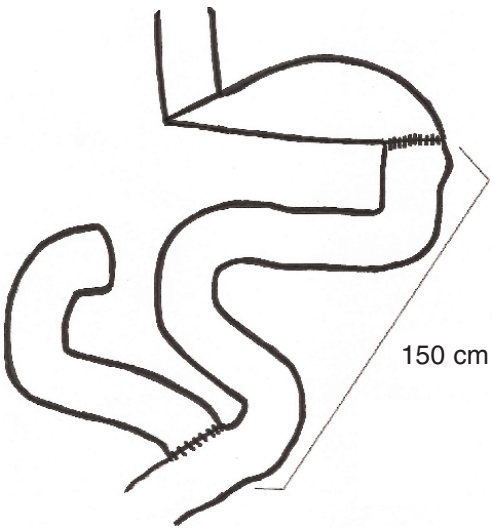

Figure 2. Sketch of surgical technique in this patient.

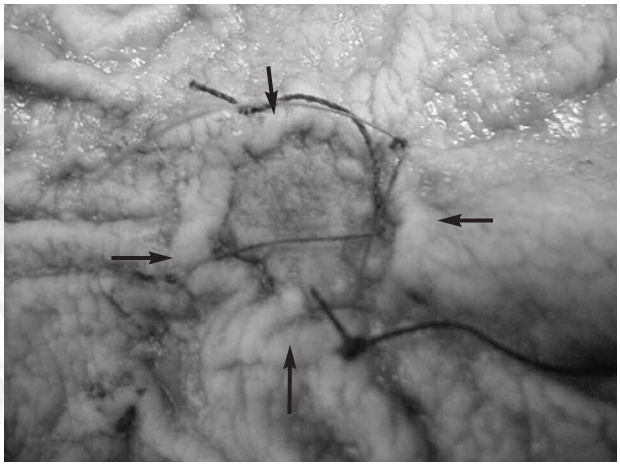

Figure 3. Surgical specimen, close-up view. (Arrows point to raised margins of the cancer. Sutures mark biopsy sites for histopathology).

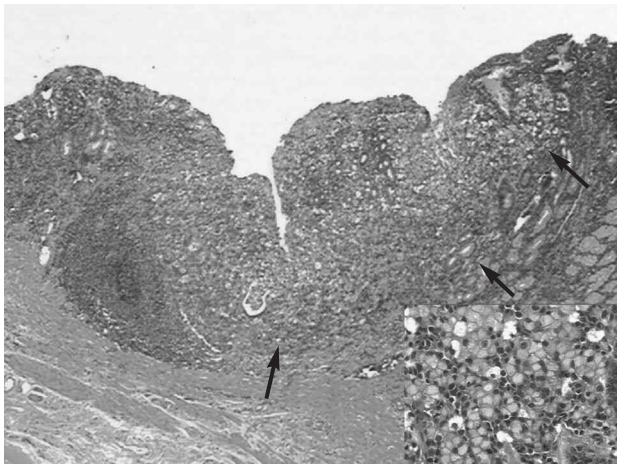

Figure 4. Surgical specimen, microscopic view.

Discussion

Early gastric cancer is almost always symptom-free and if not actively searched for, it can play an important role in the patient's future life. After bariatric surgery, symptoms of abdominal pain and discomfort are very difficult to evaluate. The bypassed stomach after RYGBP is almost inaccessible. Important findings on preoperative EGD are found in up to 61.5% of patients.[6] Identifying pre-neoplasic lesions and prevention of gastric cancer is the main reason to indicate a preoperative EGD in every patient undergoing bariatric surgery. The EGD can change the choice of surgery.[7]

When the result of the EGD was reported to the surgical team, considerable discussion was undertaken regarding the appropriate strategy. At the time that surgery took place, no data was found in the literature concerning the finding of adenocarcinoma in the investigation prior to surgery. Every paper relating gastric cancer and obesity found in a Scielo® and Medline® search was about gastric cancer *after* surgery.[3-5] Initially, a purely oncological procedure was highly considered, but the feeling that we could offer more and treat also the patient's morbid obesity, led the team to discuss with further experienced surgeons until we found what seemed to be the best way to treat this patient. The malabsorptive aspect of the Roux-en-Y reconstruction was also considered for this choice.[8]

Some months later, Boru et al,[1] published 2 cases of gastric gastrointestinal stromal tumors (GISTs), and 1 early gastric adenocarcinoma. They performed local excision and LAGB in two first patients. The patient who had an adenocarcinoma was a female with BMI 33.1 kg/m^2 and was submitted to total gastrectomy. No bariatric procedure was considered, but that operation is weight-loss producing. Although that patient was not morbidly obese (with BMI <40), that case was the only report of the preoperative finding of gastric cancer in a patient intended for bariatric surgery.

The subtotal gastrectomy was made in a classic oncologic way (D2 resection), leaving only a small gastric pouch, close to 50-60 ml, as confirmed in the radiographic study 6 months after surgery (Figure 5), but the reconstruction was made with a long Roux limb (150 cm). Despite the short follow-up, the way the surgery was conducted presumably maintained both oncologic and bariatric principles.

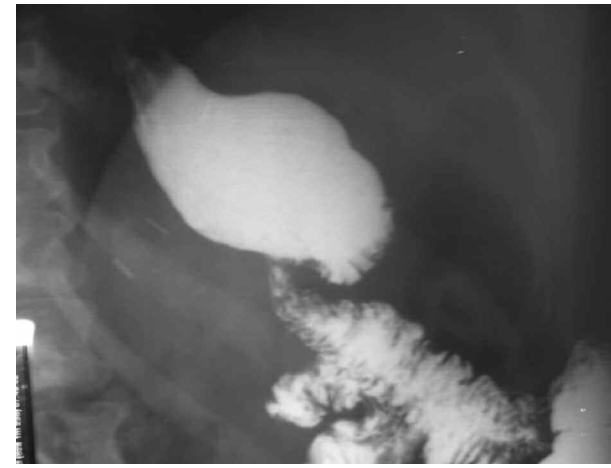

Figure 5. Upper GI series after 6 months postoperatively.

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References

1. Boru C, Silecchia G, Pecchia A et al. Prevalence of cancer in Italian obese patients referred for bariatric surgery. Obes Surg 2005; 15: 1171-6.
2. Hackert T, Diet M, Tjaden C et al. Band erosion with gastric cancer. Obes Surg 2004; 14: 559-61.
3. Escalona A, Guzman S, Ibanez L et al. Gastric cancer after Roux-en-Y gastric bypass. Obes Surg 2005; 15; 423-7.
4. Jain PK, Ray B, Royston CM. Carcinoma in the gastric pouch years after vertical banded gastroplasty. Obes Surg 2003; 13: 136-7.
5. Trincado MT, Del Olmo JC, Castano JG et al. Gastric pouch carcinoma after gastric bypass for morbid obesity. Obes Surg 2005; 15: 1215-7.
6. Sharaf RN, Weinshel EH, Bini EJ et al. Endoscopy plays an important preoperative role in bariatric surgery. Obes Surg 2004; 14: 1367-72.
7. Voellinger DC, Inabnet WB. Laparoscopic Roux-en-Y gastric bypass with remnant gastrectomy for focal intestinal metaplasia of the gastric antrum. Obes Surg 2002; 12: 695-8.
8. Von Holstein CS, Walther B, Ibrahimbegovic E et al. Nutritional status after total and partial gastrectomy with Roux-en-Y reconstruction. Br J Surg 1991; 78; 1084-7.

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