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Leiomyosarcoma of the remnant stomach after roux-en-y gastric by-pass for obesity: Case report

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Abstract

Laparoscopic roux-en-y gastric bypass (LRYGBP) is a common surgical procedure for obesity. After surgery, common procedures such as esophagogastroduodenoscopy (EGD) are inadequate to explore the excluded gastro-intestinal tract. Malignancies in the remnant stomach are rare and the related symptoms are nonspecific. Therefore, diagnosis of tumor of the remnant stomach is difficult and late. We present the first case described in the literature of a leiomyosarcoma (LMS) in the remnant stomach after LRYGBP. The late diagnosis was associated with metastatic disease and poor prognosis.

Keywords

Obesity; Surgery; Leiomyosarcoma; Roux-en-y gastric bypass; Remnant stomach.

Introduction

Laparoscopic roux-en-y gastric bypass (LRYGBP) is one of the most common procedures for surgical treatment of morbid obesity [1]. The rate of gastric tumors in the excluded stomach is low. Only a few isolated cases have been reported, and most of them were adenocarcinomas [2-7]. Usually, diagnosis is difficult and late, due to the impossibility to use a standard esophagogastroduodenoscopy (EGD) to explore the gastric remnant, and the absence of specific symptoms. We present a case of gastric leyomiosarcoma (LMS), localized in the remnant stomach after LRYGBP. To our knowledge, this is the first case of LMS after LRYGBP described in the literature.

Case Presentation

A 64-years-old woman underwent LRYGBP at our institute in 2015, after failure of a gastric band. Preoperative BMI was 43.4 kg/m^2. Hypertension was the single comorbidity recorded. A routine preoperative

EGD was performed, and pathological findings were excluded. After LRYGBP, follow-up was regular with adequate weight loss. Six years after LRYGBP, she presented to the emergency for intense asthenia. The blood sample showed a severe anemia (hemoglobin level: 6.3 g/dl) that required blood transfusions. Colonoscopy was negative. EGD did not show bleeding of the explored gastro-intestinal tract. Evidently, the gastric remnant was not accessible by means of endoscopy. A computed tomography-scan (CT-scan) identified an intraluminal heterogeneous mass of 6.2 cm on gastric fundus (excluded) and multiple liver lesions (Figure 1).

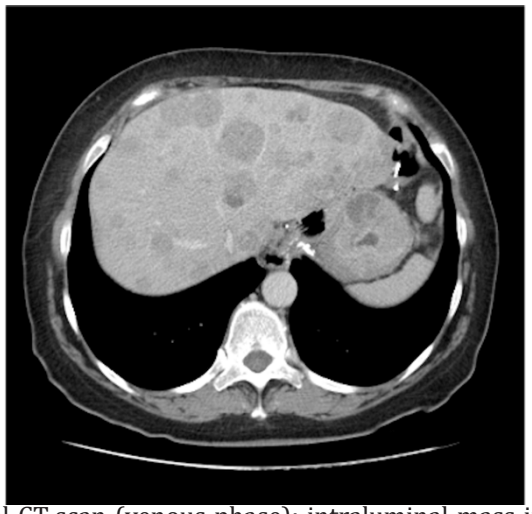

Figure 1: Abdominal CT-scan (venous phase): intraluminal mass in the gastric fundus and multiple liver metastases.

Percutaneous fine needle aspiration (PFNA) was performed and pathology revealed spindle cells with prominent cytologic atypia and mitotic figures (17 mitosis/10 High Power Field). Necrosis was detected (<50%). The slides were reviewed by a sarcoma expert pathologist at our institute. The immunohistochemical analysis showed positivity of h-caldesmon and smooth muscle actin, and negativity of CD117 and DOG1. On biopsy, final histological diagnosis was leiomyosarcoma grade 3 (FNCLCC) [8]. A multidisciplinary team including bariatric surgeons, sarcoma surgeons, oncologists, radiologists, and pathologists, decided to treat patient with chemotherapy. Patient underwent 4 cycles of Doxorubicin with progression of liver metastases and evidence of sarcomatosis. Then, patient underwent a second line of chemotherapy with Pazopanib with stable disease up to now.

Discussion

Malignant tumors in the remnant stomach are uncommon after LRYGBP, being reported in few isolated cases [2-7]. In the current literature, no case of leiomyosarcoma of remnant stomach after LRYGBP for morbid obesity have been described. Bariatric surgery appears to reduce the rate of gastric cancer according to study comparing obese patients underwent surgery with not operated patients [9]. However, most data were available for obesity-related malignant tumors [10]. Primary gastric LMS is a rare tumor, representing 0.1–3% of all gastric malignancies [11]. No specific data are described in the literature about correlation between sarcoma and obesity. To date, the real incidence of LMS in obese population, and the risk of LMS in excluded stomach is unknown. EGD is part of our routine preoperative work-up before LRYGBP to exclude intestinal metaplasia as well as mucosal and/or submucosal gastric lesions. However,

this issue is strongly debated [12-16]. In our opinion, preoperative EGD makes the bariatric team capable of early diagnosis of precancerous and malignant lesions and helps to make the best decision both in bariatric and oncosurgical aspects. In this case, the preoperative negative EGD makes us to consider that it was a new onset tumor on remnant gastric. Due to nonspecific symptoms of gastric neoplasm in excluded stomach, diagnosis is challenging. In our case diagnosis was late, with metastatic disease and therefore poor prognosis. The bariatric surgeons should keep in mind that, though uncommon, gastric LMS may occur after bariatric surgery and diagnosis needs a high index of suspicion.

Conclusion

The occurrence of gastric LMS is rare. The occurrence of gastric LMS in the gastric remnant after LRYGBP in anecdotic. The absence of symptoms and the impossibility to explore the excluded stomach result in advanced diagnose with potential metastatic disease, and poor prognosis. An international registry could be useful to detect the real incidence of LMS in patients underwent LRYGBP and to improve the diagnostic strategy.

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