

Introduction

Gastrointestinal stromal tumors (GISTs) are the most common mesenchymal tumors of the GI tract. Despite this, they rarely occur, accounting for only 1% to 3% of all gastrointestinal tumors [1].

The occurrence of gastric malignancies is extremely rare after bariatric surgery, with the majority of these being adenocarcinomas and only a minority GISTs. There are currently only three reported cases of GISTs after Roux-En-Y gastric bypass (RYGB) surgery [2, 3, 4]. In this case report, we present a patient with history of RYGB who developed a GIST in the excluded stomach remnant.

Case Report

- A 53-year-old female presented to medical care with fatigue and right upper quadrant abdominal pain.
- Prior history was notable for prior RYGB 13 years prior. Also had a history of cholecystectomy and total abdominal hysterectomy for ovarian cancer.
- Her initial laboratory studies were notable for anemia with a hemoglobin of 9.0 g/dL.
- Abdominal exam was soft, non-distended, nontender.
- Abdominal ultrasound revealed a large, conglomerate mass. CT imaging revealed a large heterogeneous mass (20 x 12 x 16 cm) at the gastrosplenic region which was inseparable from the excluded stomach remnant (See Figure 1). Ultrasound-guided biopsy proved the mass to be a GIST.
- After neoadjuvant imatinib therapy with minimal response, the patient was then referred to surgical oncology for resection. Patient underwent an exploratory laparotomy with distal pancreatectomy, partial colectomy, partial gastrectomy, and splenectomy. Intraoperatively, a large mass originated from the greater curve of the excluded stomach remnant post gastric bypass with involvement of the spleen, lateral segment of the liver, tail of the pancreas, as well as the transverse mesocolon.
- The resected specimen measured 16 x 16 x 8.0 cm.

Figures 1 and 2 – Coronal and Axial views of pre-operative CT Abdomen/Pelvis with contrast demonstrating GIST arising from the excluded stomach remnant.



Case Report (Continued)

- Pathology revealed tumor cells that were c-kit positive and of the spindle cell subtype which are findings consistent with GIST. The mitotic rate was 4 per 5 mm². All margins were negative.
- Postoperatively, the patient had an uncomplicated inpatient course and has had no recurrence of disease on follow up visits. She was treated with imatinib post-operatively.

Discussion

Bariatric surgery is generally believed to decrease the incidence of gastric malignancies in patients. In a recent cohort study involving a national French database from January 1, 2010, to December 31, 2017, 303,709 patients who underwent bariatric surgery were matched with a control group by age, sex, and comorbidities who did not undergo surgery. The patients who underwent bariatric surgery were found to have significantly less incidence of esophagogastric cancer with 6.9 per 100,000 population per year for the control group and 4.9 per 100,000 population per year for the surgical group, resulting in an incidence rate ratio of 1.42 (95% CI, 1.11-1.82; P = .005) [5]. It is hypothesized that the lack of food passing through the excluded stomach remnant resulted in decreased exposure to carcinogens.

Previous studies have identified GISTs in post-op bariatric patients, though these were either c-kit negative tumors, or after bariatric surgery other than RYGB [2, 3, 4]. Our case is deemed significant as it presents as one of the few c-kit + GIST arising from the excluded stomach remnant post RYGB to be described in literature.

References

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