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## Combined Lesser Curvature Gastrointestinal Stromal Tumor Excision and Sleeve Gastrectomy in a Bleeding Obese Patient: A Case Report

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### Abstract

Gastrointestinal Stromal Tumors (GIST) are the most frequent submucosal lesions encountered in the gastrointestinal tract. Once encountered in the stomach, they pose several challenges in resection based on their location. Some reports have observed an increased occurrence of GISTs in obese patients, however, a correlation has not been established. Some cases of fundus Gastrointestinal stromal tumor excision during sleeve gastrectomy en-mass have been reported, however, lesser curvature GIST pose a unique challenge of fashioning the sleeve. We highlight a challenging case of excising a GIST involving the lesser curvature, followed by a sleeve gastrectomy involving the greater curvature which resulted into a unique challenge of ensuring a proper anatomical low-pressure sleeve, following endoscopic calibration. Laparoscopic excision of a gastrointestinal stromal tumor and sleeve gastrectomy involving different anatomical regions of the upper stomach can be safely performed, even in our settings, despite the challenges of fashioning a low-pressure vertical sleeve.

**Keyword:** Gastrointestinal stromal tumors; Sleeve gastrectomy; Laparoscopy

### Introduction

Gastrointestinal Stromal Tumors (GIST) are the most frequent submucosal lesions encountered in the gastrointestinal tract. Once encountered in the stomach, they pose several challenges in resection based on their location [1].

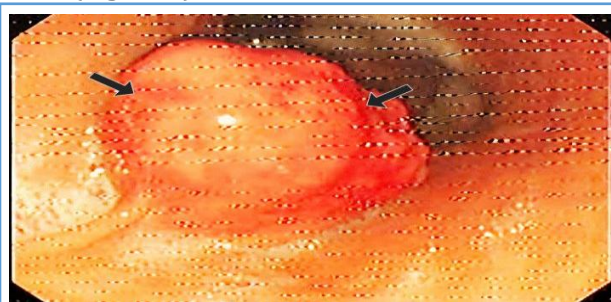
This challenge is compounded in patients who are obese and need to undergo or have already had weight loss procedure [2]. There are very few reports that highlight this challenge of GIST Excision with concomitant Laparoscopic Sleeve Gastrectomy (LSG) [3].

Some reports have observed an increased occurrence of GISTs in obese patients, however, a correlation has not been established [4]. Some cases of fundus Gastrointestinal stromal tumor excision during sleeve gastrectomy en-mass have been reported, however, lesser curvature GIST pose a unique challenge of fashioning the sleeve.

We highlight a challenging case of excising a GIST involving the lesser curvature, followed by a sleeve gastrectomy involving the greater curvature which resulted into a unique challenge of ensuring a proper anatomical low-pressure sleeve, following endoscopic calibration.

### Case Presentation

We present a 32-year-old Ugandan female with a body weight of 115 kg and Body mass Index (BMI) of 41 kg/m<sup>2</sup>. The patient reported obstructive sleep apnoea; associated epigastric pain and anaemia. The upper GIT endoscopy found a tumor involving the lesser curvature and biopsies taken revealed a gastrointestinal stromal tumor (**Figure 1**).



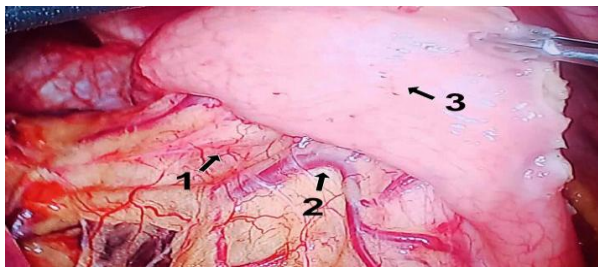
**Figure 1:** Shows gastrointestinal stromal tumor (arrows).

Abdominal Contrast CT scan showed a tumor in the upper part of the stomach, involving the lesser curvature measuring 5cm x 5cm involving the submucosa. Due to the morbid obesity, severe obstructive sleep apnoea epigastric pain and anaemia, a

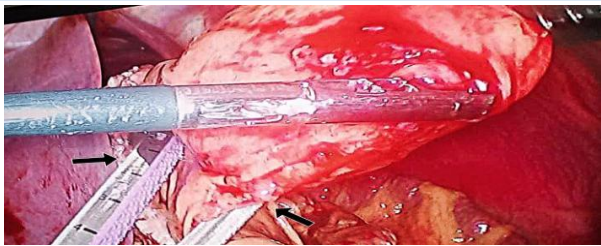


decision was made to do a laparoscopic GIST excision and laparoscopic sleeve gastrectomy at the same setting.

We started the procedure by performing a gastrotomy with harmonic shears along the greater curvature near the body and fundus. We then exposed the GIST, which had its base along the lesser curvature (**Figure 2**). The base was identified and the entire GIST was excised using a 60 mm endostapler, including the full thickness of the lesser curvature, to ensure complete excision (**Figure 3**).



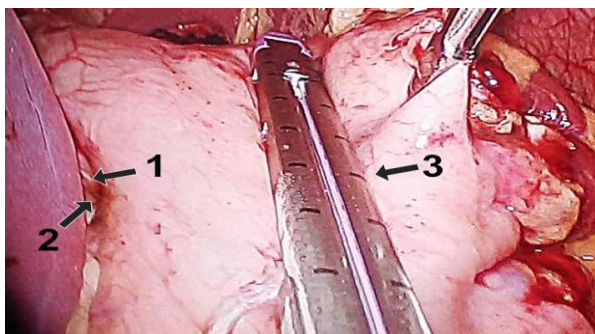
**Figure 2:** Shows GIST (arrow 3) with blood supply from the left gastric vessels (arrows 1 and 2).



**Figure 3:** Shows complete GIST Excision (arrows).

This was followed by closure of the gastrotomy incision on the body and greater curvature using Ethibond 2-0 in a single layer. This was done to plan and align the stomach for sleeve gastrectomy while avoiding distortion.

We then identified the pyloric vein of Mayo and planned the distal end of the sleeve 10 cm from the pylorus. A sleeve gastrectomy was performed (**Figure 4**), ensuring a uniform sleeve without narrowing the upper or middle portions of the stomach, to create a low-pressure, uniform remnant.



**Figure 4:** Shows lesser curvature staple line (arrows 1 and 2) and sleeve gastrectomy (arrow 3).

Haemostasis was achieved. A postoperative endoscopic inspection and calibration were performed to assess the new stomach. Both the lesser and greater curvature staple lines were inspected and found to be clean. As shown in the following figures, **Figure 1** shows an endoscopic image of a GIST involving the lesser curvature. **Figure 2** depicts the GIST tumor with blood supply from the left gastric vessels. **Figure 3** illustrates the lesser curvature GIST excision with a 60 mm endostapler. Finally, **Figure 4** shows the sleeve gastrectomy with the lesser curvature staple line also visible.

The patient made a normal recovery and was discharged after 2 days. The patient has since lost 30 kg in 2 months and is doing well.

## Discussion

Gastric GISTs have increasingly become a common encounter in many parts due mainly to advancement in diagnostic modalities that make diagnosis easier [5]. The type and mode of resection is highly dependent on size and location of the tumor and well as the malignant potential [4,5].

Laparoscopic resection offers known advantages of quick recovery, less postoperative pain and less risk of postoperative infections, however, this approach is dependant on the tumor location, whether the tumor is intramural or extramural, the grade of the malignancy and the surgeons experience with laparoscopic resections as well [3-6]. It has also been documented that tumors that are above 5 cm in diameter are at risk of rupture during dissection which increases the risk of seeding and recurrence [5].

Several options were considered for this patient, including wide excision of the GIST, partial gastrectomy, total gastrectomy and GIST excision combined with sleeve gastrectomy.

The decision to perform a laparoscopic GIST excision combined with sleeve gastrectomy was based on the need to address the actively bleeding tumor while also providing an intervention that could provide a reliable intervention for the management of the patient's morbid obesity, which was a significant concern (**Figure 3** and **Figure 4**).

The challenge in this patient arose from the need to perform two procedures involving opposite parts of the stomach: The upper lesser curvature, where the GIST was excised and the greater curvature, which is typically resected during sleeve gastrectomy (**Figure 4**). This posed the challenge of fashioning a remnant stomach that would ensure rapid transit of contents into the jejunum and ileum under low pressure.



This needed to be fashioned with the thought in mind of future scarring and possible distortion of the stomach and stenosis that can result in increased intragastric pressure and a possibility of gastric fistula formation [7-10].

It has been known that gastric fistulas following sleeve gastrectomy usually involve the upper part of the sleeve. This has been speculated to be as a result of distal stenosis resulting in increased pressures in the upper stomach, as well as the poor blood supply mainly of the upper portion after removal of the fundus and disconnection of the short gastric vessels [10].

In our patient, excision of the GIST from the upper part of the lesser curvature supplied by the left gastric artery and involvement of the fundus had the potential to compromise the blood supply to the upper portion of the stomach (**Figure 2 and Figure 4**).

Despite these risks, the patient made an excellent recovery. The excised GIST showed negative margins and the patient has lost 32 kg within three months postoperatively.

## Conclusion

Laparoscopic excision of a gastrointestinal stromal tumor and sleeve gastrectomy involving different anatomical regions of the upper stomach can be safely performed, even in our settings, despite the challenges of fashioning a low-pressure vertical sleeve.

## References

- Sanchez BR, Morton JM, Curet MJ, Alami RS, Safadi BY (2005) Incidental finding of Gastrointestinal Stromal Tumors (GISTs) during laparoscopic gastric bypass. *Obes Surg* 15: 1384-1388. [Crossref], [Google Scholar], [Indexed]
- Khan HJ, Yunus T, Ghumman AK, Nimeri A (2025) Localized excision of Gastrointestinal Stromal Tumor (GIST) after sleeve gastrectomy: Highlighting a sleeve-preserving surgical approach. *Obes Surg* 35: 1571-1574. [Crossref], [Google Scholar], [Indexed]
- Buchwald H, Estok R, Fahrback K, Banel D, Sledge I (2007) Trends in mortality in bariatric surgery: A systematic review and meta-analysis. *Surgery* 142: 621-632. [Crossref], [Google Scholar], [Indexed]
- Saurabh S (2017) Gastrointestinal stromal tumor: An incidental finding during laparoscopic bariatric surgery. *Clin Case Rep* 5: 1905-1906. [Crossref], [Google Scholar], [Indexed]
- Nishida T, Hirota S, Yanagisawa A, Sugino Y, Minami M, et al. (2008) Clinical practice guidelines for Gastrointestinal Stromal Tumor (GIST) in Japan: English version. *Int J Clin Oncol* 13: 416-430. [Crossref], [Google Scholar], [Indexed]
- Lyros O, Moulla Y, Mehdorn M, Schierle K, Sucher R, et al. (2019) Coincidental detection of gastrointestinal stromal tumors during laparoscopic bariatric procedures-data and treatment strategy of a German reference center. *Obes Surg* 29: 1858-1866. [Crossref], [Google Scholar], [Indexed]
- Chetta N, Picciariello A, Nagliati C, Balani A, Martines G (2019) Surgical treatment of gastric GIST with acute bleeding using laparoscopic sleeve gastrectomy: A report of two cases. *Clin Case Rep* 7: 776-781. [Crossref], [Google Scholar], [Indexed]
- Ayoub K, Danial AK, Tarabishi AS, Shebli B, Halwani MY, et al. (2019) A rare case of incidental finding of GIST during sleeve gastrectomy: Case report. *Int J Surg Case Rep* 65: 161-163. [Crossref], [Google Scholar], [Indexed]
- Çaynak M, Özcan B (2020) Laparoscopic transgastric resection of a gastrointestinal stromal tumor and concomitant sleeve gastrectomy: A case report. *Obes Surg* 30: 1596-1599. [Crossref], [Google Scholar], [Indexed]
- P Woźniewska, I Diemieszczyk, HR Hady (2021) Complications associated with laparoscopic sleeve gastrectomy - a review. *Prz Gastroenterol* 16: 5-9. [Crossref], [Google Scholar], [Indexed]