If You Catch My GISTs: A Single Team Case Series of Incidental GISTs Discoveries During Sleeve Gastrectomy

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BACKGROUND

- Gastrointestinal stromal tumors (GISTs) are rare stromal neoplasms representing 1-2% of GI tumors.
- GISTs are more common in African Americans (AA) with an incidence of 7-8 cases per million population per year in the US and Canada[4,5].
- GISTs arise equally in men and women, are usually asymptomatic and found incidentally on endoscopy or CT imaging.
- GISTs can be found anywhere along the GI tract but most commonly in the stomach. Their cellular origins are believed to be the interstitial cells of Cajal, GI "pacemaker" cells, located within the bowel wall muscular layers and responsible for gut peristalsis.
- On Immunohistochemistry (IHC), these spindle shaped cells almost universally stain positive for the CD117 (c-kit).
- The treatment of choice is R0 resection for small low grade lesions[1]. For metastatic or recurrent disease, treatment may include a wider resection and Imatinib.

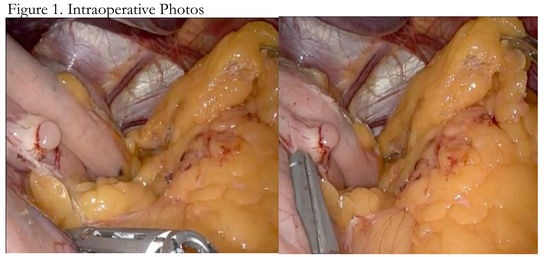
CASE DESCRIPTION

Patient A is a 46 yo AA male with a history of hypertension and obesity(BMI 46). Patient B is a 55 yo AA F with a history of hypertension, sleep apnea and obesity (BMI 41). Both patient's pre operative endoscopies were unremarkable. Each patient underwent uncomplicated robotic sleeve gastrectomies of which suspicious lesions were noted near the fundus (Figure 1. A-D). In both cases, the lesions were successfully resected with the sleeve specimen.

Immunohistochemistry for both patients revealed the characteristic spindle shaped cells with positive stains for + CD117 and DOG1 (Figure 2 A-B). In addition, each specimen had a ki67 positivity in less than 2% of the cells. The lesions were removed in their entirety in both cases with negative margins. Referrals to surgical oncology were made for each patient and final recommendations were surveillance given low grade disease in the setting of R0 resections.

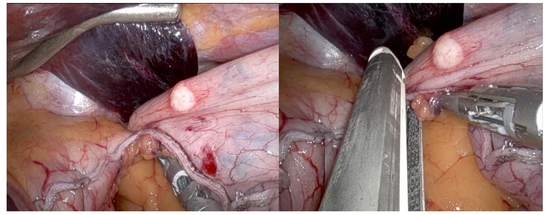
FIGURES

Figure 1. Intraoperative Photos



A. Patient A posterior fundal lesion

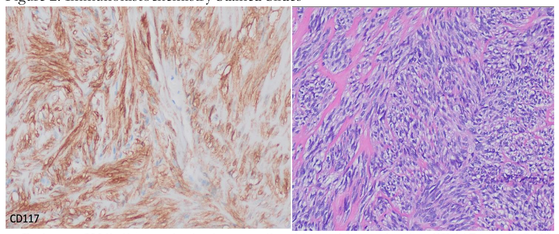
B. Patient A posterior fundal lesion



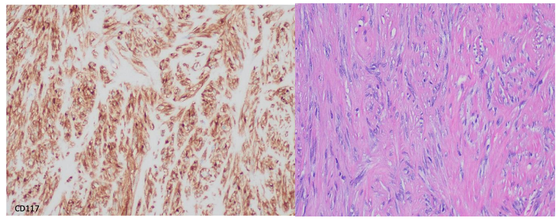
C. Patient B anterior fundal lesion

D. Patient B anterior fundal lesion

Figure 2. Immunohistochemistry Stained Slides



A. Patient A IHC slides, spindle shapes cells with positive stains for CD117 and DOG1



B. A. Patient B IHC slides, spindle shapes cells with positive stains for CD117 and DOG1

DISCUSSION AND CONCLUSIONS

The sleeve gastrectomy remains the most commonly preformed bariatric surgery in the US. The resected portion of the stomach is sent for histopathological assessment and though uncommon, surgeons are incidentally finding neoplasms in the specimens. Current literature quotes the incidence of GISTs in these specimens to be .6-.8%[2] and there has been no literature clearly correlating obesity to increased risk of these tumors. In both of our patients, there were no signs or symptoms concerning their lesions in pre operative workups and both had GISTs in locations that were easily include with the final specimens.

If found early, low grade GISTs can be treated swiftly with resection with low risk of recurrence[3]. Pending the location of the lesion, a complete resection can be completed without altering the course of this procedure. Once the diagnosis is confirmed, these patients should be referred to an oncology specialist for next steps and surveillance protocols. No further surgical or medical management was warranted for either of our patients.

Though rare, GISTs should remain in the differential diagnosis when lesions are encountered during abdominal surgery. Early detection can alter both the treatment options and prognosis for these patients at the time of surgery.

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