

Laparoscopic Treatment of Gastrointestinal Stromal Tumor: Report of a case.

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Abstract

Gastrointestinal stromal tumors, GIST tumors as they are referred to currently, make up 20% of small bowel neoplasms and < 1% of all gastrointestinal neoplasms (incidence, 10 to 20 per million population). A 59-y-old female presented with a 2 month history of anemia and melena. The patient had a negative surgical history, was on no medications. She had no known drug allergies. A physical examination of her abdomen was unremarkable. Rectal examination was normal, guaic positive. Her blood work showed mild anemia. Laparoscopic operative approach to small bowel tumors is a feasible and appropriate operative technique. In GIST tumors, GI bleeding is the more common acute presentation, with bowel obstruction being less common.

Introduction

Gastrointestinal stromal tumors, GIST tumors as they are referred to currently, make up 20% of small bowel neoplasms and < 1% of all gastrointestinal neoplasms (incidence, 10 to 20 per million population). They are identified by having a histologic appearance of spindle-cell mesenchymal neoplasm with the presence of surface markers CD 117.^{1,2} The majority (65%) of GIST tumors occur in the stomach, with 30% in the small bowel and the remaining seen in the colon and esophagus (5%). The most common acute presenting symptom requiring surgical intervention in GIST tumors is GI bleeding with obstruction being much less common.^{4,5} We report a case of GIST tumor of the small bowel in a patient who presented to our institution with lower

gastrointestinal bleeding, treated laparoscopically. We also reviewed the current literature regarding laparoscopic management of these lesions.

Case Report:

A 59-y-old female presented with a 2 month history of anemia and melena. The patient had a negative surgical history, was on no medications. She had no known drug allergies. A physical examination of her abdomen was unremarkable. Rectal examination was normal, guaic positive. Her blood work showed mild anemia. A workup EGD and Colonoscopy were normal. A CT scan of the abdomen showed a 4 × 2x3-cm bowel mass in the mid-abdomen . The patient underwent enteroscopy that showed an umbilicated lesion in the small bowel with nonobstructing features, which was tattooed. The patient was brought to the operating room where she underwent laparoscopy and was noted to have an 4-cm pedunculated lesion in the distal jejunum (Fig.1), which was resected. We performed a stapled anastomosis which was reinforced with intracorporeal monofilament sutures. The specimen was extracted in a endobag from the umbilical

port. The postoperative course was unremarkable and the patient, was discharged on POD#3. Pathology showed a submucosal spindle cell tumor that was CD-117 positive and compatible with a gastrointestinal stromal tumor with negative margins.



Fig.1

Conclusions

Laparoscopic operative approach to small bowel tumors is a feasible and appropriate operative technique. In GIST tumors, GI bleeding is the more common acute presentation, with bowel obstruction being less common. The majority (65%) of GIST tumors are seen in the stomach, which probably accounts for this phenomenon as the stomach is a highly vascular organ not

easily obstructed. CT scan is recommended in such patients and does help differentiate the source of obstruction, which can help direct choices in management. The use of CT scan is a Class II recommendation by the EAST workshop group for management of small bowel obstruction.⁸ Enteroscopy is very useful in the diagnosis of small lesion, particularly in the workup of anemia with negative EGD and colonoscopy. In addition, enteroscopy allows ink injection of small lesion and is very useful in the surgical treatment. Regarding the surgical approach, laparoscopy has been shown to be comparable to an open approach with regards to the ability to adequately and safely operate on GIST tumors. The advantages over open surgery with comparable lesions are shorter hospital stay, less blood loss, and less postoperative pain.⁹ Once the lesion is identified, a resection is performed and bowel continuity can be restored intracorporeally or extracorporeally and is dependent on surgeon's preference and skills. It should be emphasized at this point that exophytic well-differentiated GIST lesions can have an appearance grossly like that of leiomyoma. The lesion should be ideally placed in a specimen sack prior to removal from the abdominal cavity or brought out

through an extended incision with protection of the wound edges. Maintaining the integrity of the capsule is important and disruption with spillage of the tumor cells must be avoided. Though rare, there are case reports of GIST recurrence at port sites.¹² The safety and appropriate use of laparoscopy in surgical resection of GIST tumors has been well documented.^{9,13,14,15} Because of the nature of the tumor and the unlikely spread to lymphatics (<10%), it is not necessary to do a formal lymph node dissection. Complete resection with clear margins is adequate and avoiding rupture of the capsule of the lesion as stated above is important. In cases where the tumor is large (>10cm) or invading surrounding structures, or both, the surgeon's experience and level of comfort with laparoscopy will play a big part in the decision as to whether to proceed with laparoscopy. Some groups have successfully removed large (10cm) GIST tumors from the stomach, but since these can be extremely challenging, it may be prudent to convert to an open procedure.¹⁶

Conflict of Interests

The authors' declare that there are no conflicts of interests.

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