



Laparoscopic Resection of Ileal Gastro Intestinal Stromal Tumor Presenting as Gastro Intestinal Bleed; a Case Report

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Authors' contributions

Author MC operated the patient and helped in manuscript drafting. Author MDW evaluated the patient. Authors ZMR and MY assisted in surgery, authors PHAM and AMY helped in analysis of the study. Authors WR, SSA, ZGL and ARB helped in execution and literature searches.

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Case Study

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ABSTRACT

Gastrointestinal stromal tumors are the rare tumors of GI tract and account for 2% of all the tumors of digestive tract. They are usually found in stomach and are also located in the small intestine. They usually present with mucosal ulceration and gastro intestinal bleeding. The bleeding from the small intestine is difficult to diagnose however angiography is a useful tool. We present a case of a GIST located in the ileum presenting with a lower gastrointestinal bleeding. A patient presenting with lower G.I bleeding was admitted in our hospital The colonoscopy was performed which showed blood coming through the ileal opening into the caecum. Patient was asked to undergo CT enterography, which showed an ileal GIST. The patient was subjected to diagnostic laparoscopy which revealed an ileal Gist 25 cms from ileocaecal junction compressing the ileal lumen. Laparoscopic resection of the diseased segment of bowel with GIST was performed and ileo-ileal side to side anastomosis was done with V-loc sutures.

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1. INTRODUCTION

Gastrointestinal stromal tumors are interesting tumors of GI tract and are rarely found in day to day clinical practice. GISTs comprise 20% of small bowel tumors and less than 1% of the gastrointestinal neoplasm [1]. The colon and esophagus are even the rarer sites. The clinical presentation depends on their size and location of lesion. They usually present with vague abdominal complaints or otherwise some non specific symptoms [2]. They are incidentally found at endoscopy or surgery for some unrelated reason or even at autopsy [3]. Gastrointestinal bleeding is the main manifestation of these tumors and obstruction of the small bowel being next to it [4,5]. The capsule endoscopy and small bowel enteroscopy are helpful diagnostic tools. Angiography is the best method of diagnosis [6]. They have a typical histological appearance of spindle cell mesenchymal neoplasm with the presence of surface markers CD117 [7]. The gold standard for GISTs is surgical excision. Surgical treatment should achieve the complete removal of the tumor [8]. Laparoscopic surgery is a standard approach for the treatment of these tumors; the surgeon needs to be careful intraoperatively to avoid rupture of the tumor capsule and consequent spillage of tumor cells [9].

2. CASE REPORT

A 30 year old male was shifted to our unit from the department of medical gastroenterology. The patient had presented with lower GI bleed. His vitals were normal. A physical examination showed a mild distension and mild tenderness without guarding or rebound. The X-rays of the abdomen did not show any significant findings. Colonoscopy was performed which showed blood coming from the ileal orifice. The patient was subjected to CT enterography which showed a mass near the ileo-caecal region (Fig. 1).The patient was prepared for diagnostic laparoscopy and proceed. On diagnostic laparoscopy 7x3.5x2 cm tumor was found coming up from ileum compressing its lumen approx 25 cms from the ileo-caecal region. The proximal and distal bowel was not dilated. The proximal and distal bowel was resected along with the tumor using Endo GIA stapler and the specimen was removed through a 3x5 cm transverse incision designed in the right iliac fossa in an endo bag. We used three ports. 10 mm optical port was made at 3

cms below and to the left of umbilicus. 12 mm stapler port was made about 5 cms away from optical port towards left sub costal margin in the mid clavicular line. Another 5 mm port was made, 5 cms below the optical port in the left iliac fossa in the mid-clavicular line. A side to side four layered illeo-illeal anastomosis was performed intracorporeally using v.loc suture. Precaution was taken to avoid rupture of the capsule of tumor while operating. Pathological Sections showed cellular smooth muscle variety tumor, composed of spindle cells arranged as fascicles and whorls. Features were suggestive of a GIST which was confirmed on immunohistochemistry with CD 117 positivity (Figs. 2,3,4,5,6,7,8,9). The patient did well in the postoperative period. Orals were started on the second POD and patient was discharged on 4th POD.

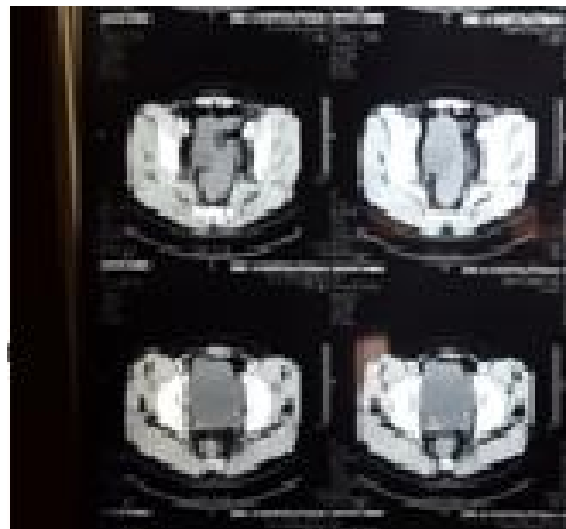


Fig. 1. Ct scan showing tumour near ileocaecal region

3. DISCUSSION

GISTs are interestingly rare tumors of GI tract that commonly present with GI bleeding and bowel obstruction. 65% of these tumors originate from stomach which accounts for the phenomenon of upper GI bleed as the stomach is highly vascular organ. Laparoscopy is gaining importance as a diagnostic and therapeutic tool in these tumors of GI tract. It is safe, feasible and a standard technique that does not compromise oncological standards. The obstruction is caused by the progressive growth of the lesion with direct occlusion of the bowel. The



Fig. 2. The position of patient and port placement



Fig. 3. The appearance of ileal gist on diagnostic lap



Fig. 4. Proximal transection of ileum with endo GIA stapler



Fig. 5. The resection of distal ileum with endo GIA stapler

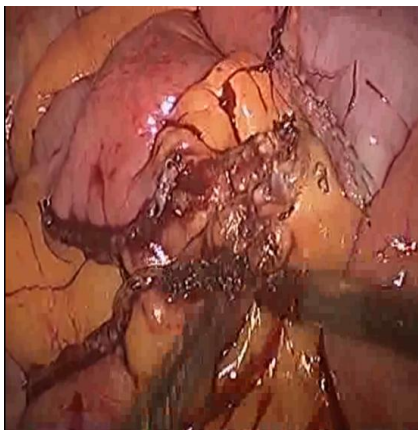


Fig. 6. The proximal and distal ileum brought nearer for anastomosis

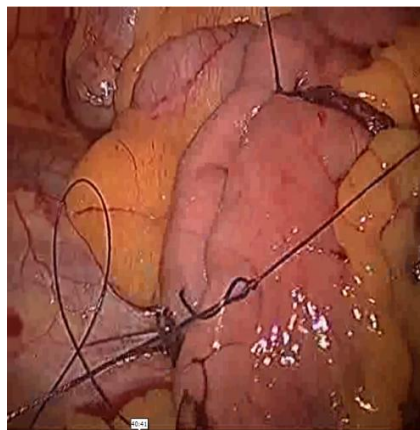


Fig. 7. The side to side ileo-ileal anastomosis; intracorporeal in progress

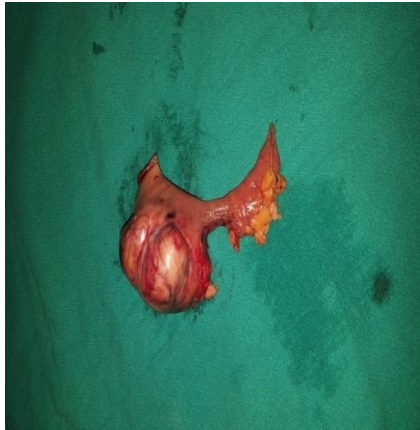


Fig . 8. The resected specimen of Gist

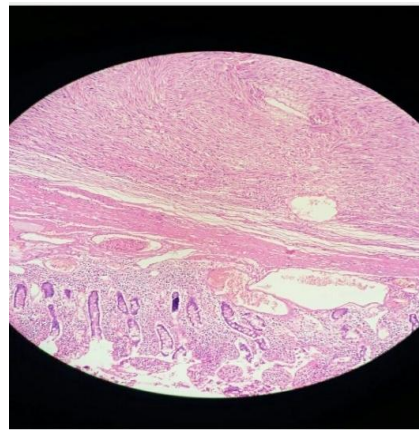


Fig. 9. The pathology slide showing spindle cells

intussusception with the tumor is another way of obstruction and a volvulus like torsion of the bowel around the tumor can also add to obstruction. Laparoscopy appears to offer the benefit of minimal handling of tissues, less blood loss, early recovery of bowel sounds, thus overall decreased hospital stay. The disadvantage of this method is that the operating surgeon loses the tactile sensation of the bowel thereby the ability to palpate the lesion. The resection of the bowel is usually done by Endo GIA staplers and anastomosis can be performed intra corporeally or extra corporeally. In our case we used Endo GIA staplers to resect the tumor proximally and distally and side to side ileo-ileal anastomosis was performed using 20 cm 2 0 V-loc. The specimen was removed in a sterile plastic bag through a small functional incision designed (3-5 cm) in the right iliac fossa. Because of the nature of the tumor and unlikely spread to lymphatics (10%) we do not require to do a formal lymph node dissection. Complete resection with clear margins is adequate avoiding intra operative rupture of the tumor. It is wise that tumors more than 10 cms may be handled by a laparoscopic assisted technique or else be converted and handled by open procedure. Many studies have been published on gastric GIST tumors because they are common variety. The approach to and biological nature of this tumor in small bowel is similar and results are equally good. Surgical resection for GIST is one of the aspects of comprehensive therapy; however patient needs to be referred to medical oncologist for further evaluation and consequent adjuvant treatment with imatinib and other tyrosine kinase inhibiting agents. However the role of these agents is yet not clearly proven.

4. CONCLUSION

It is recommended that in small bowel obstruction and lower gastrointestinal bleed with no obvious cause CT scan/CT enterography be performed and possibility of a GIST be kept in mind. Laparoscopic management of these tumors gives the patient an extra benefit of short hospital stay, less blood loss, less post op pain, less medication requirement and also avoids laparotomy. Laparoscopic management should avoid the rupture of the capsule. The wide resection of lymph nodes is not necessary.

CONSENT

As per international standard or university standard, patient's written consent has been collected and preserved by the authors.

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Tzen CY, Wang JH, Huang YJ, et al. Incidence of gastrointestinal stromal tumor: A retrospective study based on immunochemical and mutational analysis. *Dig Dis Sci.* 2007;52(3):792–797.

2. Poveda A, Artigas V, Casado A, Cervera J, García Del Muro X, Antonio López-Guerrero J, López-Pousa A, Maurel J, Ortega L, Ramos R, Romero I, Safont MJ, Martín J. Clinical practice guidelines in gastrointestinal stromal tumours (GEIS): Update 2008," Cirugia Española. 2008;84(Suppl. 1):1-21.
3. Nilsson B, Bummig P, Meis-Kindblom J, et al. Gastro-intestinal stromal tumors: The incidence prevalence, clinical course and prognostication in the preimatinib mesylate era. Cancer. 2004;103(4):821–829.
4. Sezer A, Yagci M, Hatipoglu A, et al. A rare cause of intestinal obstruction due to an exophytic gastrointestinal stromal tumor of the small bowel. Signa Vitae. 2009;4(2):32–34.
5. Fischer C, Nagel H, Metzger J. Image of the month. Gastrointestinal stromal tumor of the small bowel. Arch Surg. 2009;144(4):379–380.
6. Farrell JJ, Friedman LS. Review article: The management of lower gastrointestinal bleeding. Alimentary Pharmacology & Therapeutics. 2005;21(11):1281-1298. DOI:10.1111/j.1365-2036.2005.02485.x
7. Stamatakos M, Douzinas E, Stefanaki C, et al. Gastrointestinal stromal tumor. World J Surg Oncol. 2009;7:61.
8. Demetri G, Benjamin R, Blanke CD, Blay JY, Casali P, Choi H, Corless CL, Debiec-Rychter M, DeMatteo RP, et al. NCCN task force report: Optimal management of patients with gastrointestinal stromal tumors (GIST)—Update of the NCCN Clinical Practice Guidelines. Journal of the National Comprehensive Cancer Network. 2007;2(Suppl. 2):1-29.
9. Casali PG, Jost L, Reichardt P, Schlemmer M, Blay JY. Gastrointestinal stromal tumours: ESMO Clinical recommendations for diagnosis, Treatment and Follow-Up. Annals of Oncology. 2009;20(4):64-67. DOI:10.1093/annonc/mdp131

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