

Perforated Jejunal Gastrointestinal Stromal Tumor(GIST) Presenting as Acute Abdomen: A Rare Presentation

Dr. Satpal Hans^{1*}, Dr. Manjit Singh Khalsa², Dr. Nirbhair Singh³, Dr. Antriksh Gupta⁴,
Dr Aimy Arnav⁵

Government Medical College, Amritsar, Punjab, India

*Corresponding Authors Email: nirbhaibir85@gmail.com

Abstract— *Gastrointestinal stromal tumors (GIST) are rare neoplasms of the gastrointestinal system. A case of 40 year old man having tense tender abdomen with obliterated liver dullness and shifting dullness was presented in emergency, it was further investigated on X rays, where pneumoperitoneum was found. This case was then decided to go for Laparotomy after routine investigations to further explore. On exploratory laparotomy, diffuse peritonitis with brown coloured fluid was observed. A 10 x 5 x 7 cm mass was found having an opening communicating with the gut lumen was present around 10 cm from the ligament of treitz. However, no adjacent structures, liver or parietal peritoneum seemed to be involved. Gross examination of the specimen revealed an outward bulging mass, which was centrally necrotic and contained hemorrhagic-necrotic material. On histo-pathological examination, features suggestive of gastrointestinal stromal tumor (GIST) with mixed spindle and epithelioid pattern was seen. Mitoses were slightly increased (<5/10' HPFs) leading to the conclusion of LOW GRADE GIST with tumor free margins of gut (R0 resection). So it was a case of Gastrointestinal stromal tumors (GIST), which is a rare medical presentation. So it was decided to report this case as a rare case presentation.*

Keywords: *Gastrointestinal Stromal Tumors (GIST), Neoplasms, Gastrointestinal system*

I. INTRODUCTION

Gastrointestinal stromal tumors (GIST) are rare neoplasms of the gastrointestinal system accounting for 0.1-3% of all gastrointestinal malignancies. GIST most commonly occurs in the stomach (50-70%), small intestine (25-35%), colon and rectum (5-10%), mesentery (7%) and esophagus (<5%). Around 60% of the GIST are found to be symptomatic. Symptoms include abdominal pain (74%), abdominal mass (72%), gastrointestinal bleeding (44%) and gastrointestinal obstruction (44%)^{1,2}. However, intestinal perforation as initial presentation of GIST is an extremely rare presentation.

II. METHODOLOGY

A case of 40 year old man having tense tender abdomen with obliterated liver dullness and shifting dullness presented in emergency, it was further investigated on X rays, where pneumoperitoneum was found. This case was then decided to go for Laparotomy after routine investigations to further explore.

On further exploration it was found to be a case of gastrointestinal stromal tumors, which is a rare medical presentation. So it was decided to report this case as a rare case presentation.

III. CASE REPORT

A case of 40 year old man having tense tender abdomen with obliterated liver dullness and shifting dullness was presented. Patient had no prior history of any particular pain or anorexia or recent weight loss. History of fever could be obtained with associated sudden onset severe periumbilical pain which very quickly became diffuse in nature. On xray chest with both lobes of diaphragm and x-ray abdomen erect, the patient had signs of pneumoperitoneum. It was further confirmed by ultrasonography which

showed dilated gut loops and copious amounts of free fluid in the peritoneum. The decision of exploratory laparotomy was made.

On exploratory laparotomy, diffuse peritonitis with brown coloured fluid was observed. A 10 x 5 x 7 cm mass was found having an opening communicating with the gut lumen was present around 10 cm from the ligament of treitz. However, no adjacent structures, liver or parietal peritoneum seemed to be involved. (Figure 1)

Thorough peritoneal lavage was done tumor was resected along with small intestine to ensure a tumor free margin. Primary end to end anastomosis of the jejunum was done in two layers with vicryl 2-0 round body and silk 2-0 round body. Post operative period was uneventful and patient was discharged home on 6th day of the operation. (Figure 2)

Figure 1
On Laparotomy Tumor insitu

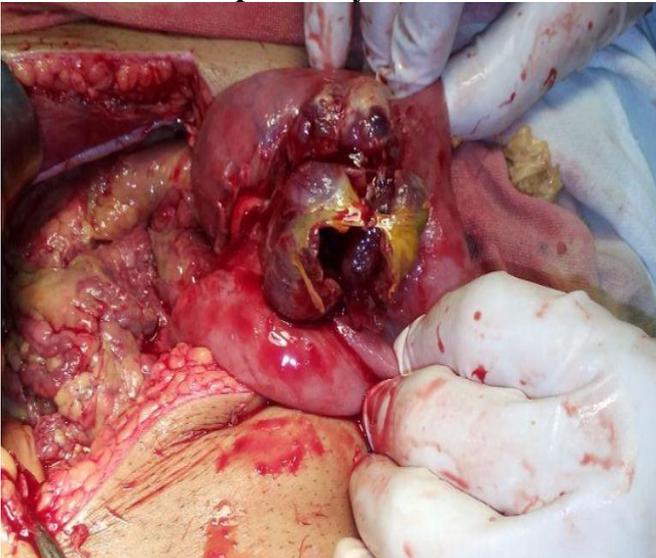


Figure 2
Resection Anastomosis of Tumour

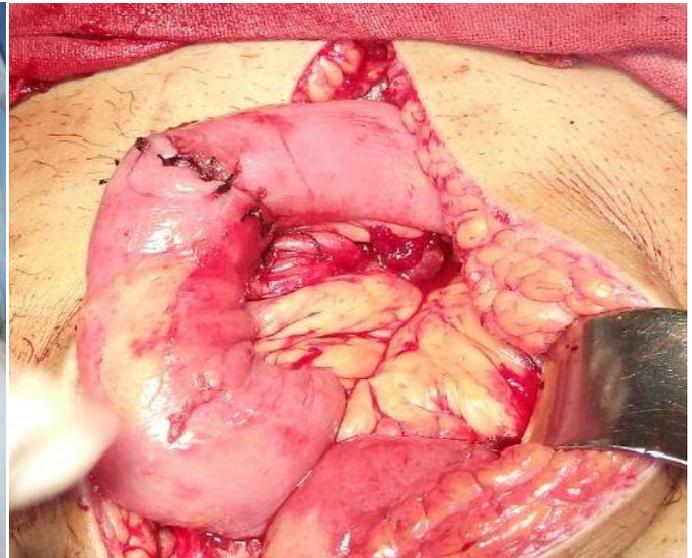
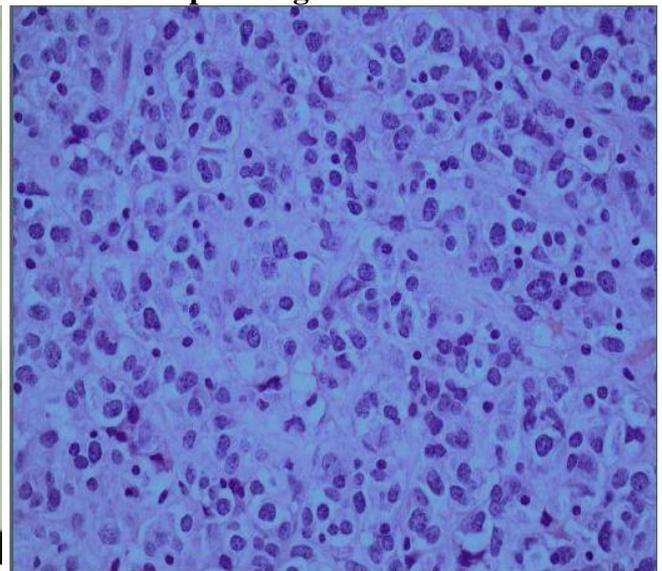


Figure 3
Cut specimen on Gross Examination



Figure 4
Histo-pathological Examination



Gross examination of the specimen revealed an outward bulging mass, which was centrally necrotic and contained hemorrhagic-necrotic material. (Figure 3)

On histo-pathological examination, features suggestive of gastrointestinal stromal tumor(GIST) with mixed spindle and epithelioid pattern was seen. Mitoses were slightly increased (<5/10' HPFs) leading to the conclusion of LOW GRADE GIST with tumor free margins of gut(R0 resection). (Figure 4)

Immunohistochemistry revealed diffuse and strong positivity for CD-117 confirming the diagnosis. After confirmation, patient was immediately started on IMATINIIB MESYLATE at 300 mg bd.

IV. DISCUSSION

GIST was first described by Mazur and Clarke in 1983. Varied though its symptoms are, acute abdominal symptoms of perforation are rare and unique. Around 15 case reports exist describing this rare phenomena, mostly occurring in the jejunal GIST and only one case report describing perforation in stomach³. Therefore, when the patient presents with acute abdomen mostly the diagnosis of diverticulitis or stomach perforation is made. Prognostic factors include tumor size, Mitotic index, and Site of tumor origin^{4,5}. An R0 or R1 resection, is associated with 5- year overall survival rate of 34-63%. The advent of tyrosine kinase inhibitors have resulted in drastic improvement in 5-year survival rate. Tumors with a mitotic rate of >5/50 high-power field usually has a malignant behavior⁵. Even though the mitotic index was <5 in our case, the patient was in the low risk group due to the size of tumor and the mixed spindle with epithelioid morphology in the histopathological examination.⁶

V. CONCLUSION

GIST has a variety of abdominal symptoms, however, perforation as initial presentation is very rare. Whenever suspected, on exploratory laparotomy, R0 resection should be attempted and imatinib mesylate should be started on histopathological and IHC confirmation.

CONFLICT

None declared till date.

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