



Case Report

GASTROINTESTINAL PERFORATION DUE TO GASTROINTESTINAL STROMAL TUMOUR (GIST) IN SMALL INTESTINE- A CASE REPORT

S.M. Iftekhar Uddeen Sagar¹, AM SM Sharfuzzaman²,
SM Nazrul Islam³ Md. Mahamudul Hasan⁴

Abstract:

Gastrointestinal stromal tumors (GISTs) is a mesenchymal tumor of GI tract. Now a days diagnosis of GISTs is more frequent then previous due to advance diagnostic tool. GISTs usually present with abdominal mass and GI bleeding but it may also present with many unusual pattern like obstruction, perforation. Perforation of GISTs is extremely rare presentation. We report a case of pneumoperitoneum due to perforation of small intestinal GIST. Emergency laparotomy followed by resection and end to end anastomosis was done. After surgical treatment Imatinib mesylate was given for prevention of early recurrence.

Keywords: Gastrointestinal stromal tumor, Perforation, Imatinib

Introduction

Gastrointestinal stromal tumors (GISTs) are rare tumors account for less than 01% of all GI tract tumors¹. It is the commonest mesenchymal tumors of GI tract (80%), which originated from Interstitial cell of Cajal (ICC) cell with an estimated incidence 10-20 cases per million². Presentation includes abdominal mass (50-70%), hemorrhage, obstruction (5%), and rarely perforation³.

Case Presentation:

A 60 years old man presented with the complaints of sudden severe abdominal pain for 8 hours and vomiting.

1. Registrar, Department of Surgery, Sher E Bangla Medical College Hospital, Barisal.
2. Professor & Head of Department of Surgery, Sher E Bangla Medical College Hospital, Barisal.
3. Associate Professor, Department of Surgery, Sher E Bangla Medical College Hospital, Barisal.
4. Assistant Registrar, Department of Surgery, Sher E Bangla Medical College Hospital, Barisal.

Correspondence to: Dr. S.M. Iftekhar Uddeen Sagar, Registrar, Department of Surgery, Sher E Bangla Medical College Hospital, Barisal. Tel: +88 01711075931, e-mail: driftekar.sagar@gmail.com

On examination, he was severely dehydrated, temperature was 101 °F. On abdominal examination, generalized tenderness and muscle rigidity was present, upper border of liver dullness was obliterated. Bowel sound was absent. Erect abdominal radiograph showed a crescent gas shadow under the right dome of diaphragm . After resuscitation the patient underwent emergency laparotomy. We found bile stained fluid in abdominal cavity which was sucked out. There was a growth (7×5.5) cm in size and located at antimesentric border of jejunum, about 13 cm from DJ junction [Fig-1]. A perforation was found at proximal part of growth [Fig-2]. Resection and anastomosis was done. His postoperative period was uneventful.



Figure 1: Growth in jejunum



Figure 2: Perforation of the growth

Histopathology shows spindle cell type of GIST. Resected margins were free from tumor. Immunohistochemistry shows CD-117/c-kit positive.

After consultation with oncologist we started oral Imatinib 400mg/day. Patient came for follow up visit after one month & after 6 months. No recurrence of disease and no side effect of Imatinib was found.

Discussion:

GISTs can occur anywhere in GI tract. The stomach (60%) is commonest site followed by small intestine (30%), duodenum (5%), colon/rectum (5%) and esophagus (<1%). Primary mesenteric, omental and retroperitoneal GISTs have also been reported but they are very rare⁴. Extra intestinal GIST has been reported in gall bladder, pancreas, liver and urinary bladder³.

Grossly, GISTs are usually unencapsulated but well-circumscribed masses. The cut surface shows a whorled fibroid-like or more fleshy with variegated appearance. Large lesions show cystic degeneration or central necrosis. Ulceration of the overlying mucosa is common. Immune-histochemical markers are used to confirm the diagnosis⁵. 91-98% of GISTs (average 95%) staining positive for KIT (CD 117)⁵.

In 2002, Fletcher et al categorized the GISTs on basis of tumor size and mitotic index as very low, low, intermediate or high risk tumor by taking into account the possibility of metastasis or recurrence^{1,2}. Till now it is widely accepted prognostic classification of GIST. Joensuu and Coll have proposed another classification that includes tumor rupture and tumor site [Table-III]. Based on this new proposed classification all the patients with tumor rupture should be considered as high risk for recurrence¹. According to Joensuu classification of risk category our case has high risk of recurrence.

Generally GISTs have not been responsive to chemotherapy or radiotherapy. Now complete surgical resection with negative (R0-resection) margin is the standard of care for treatment of GISTs^{3,6}. Complete surgical resection entails 48-65% five years survival. Perforation of the tumor lower the five year survival to 24% possibly due to peritoneal dissemination⁴. In our case resection margins were free of tumour and there was no evidence of metastasis.

Imatinib mesylate, a tyrosin kinase inhibitor is a great development for patients who suffer from metastatic and recurrent GISTs. Oral Imatinib at doses >300mg/day for 3 years achieved curative result^{2,3}. For patients with imatinib resistance and those who cannot tolerate imatinib, the newer multikinase inhibitor Sunitinib malate may delay median time to tumour progression⁷. The five year survival rate is 35%. It increases to 54% after complete surgical excision.

Conclusion:

GIST may present as acute abdomen with feature of perforation of hollow viscus which need emergency surgical intervention. So in acute abdomen GIST should be kept in mind and should be managed accordingly.

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