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Case Report

A rare case of primary gastrointestinal stromal tumour of the stomach presenting as perforation peritonitis

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ABSTRACT

Presentation of gastrointestinal stromal tumours (GISTs) as perforation peritonitis is a rare entity with only few cases reported in literature. Here we present a case of a 50-year-old male with acute abdomen and signs of peritonitis. Abdominal radiography revealed dilated small bowel loops in the absence of any free intraperitoneal air. Exploratory laparotomy revealed a growth arising from the stomach wall at the distal part of the body along the greater curvature. Wide excision of the lesion was done with rent closure. Histopathological examination further confirmed the diagnosis of a GIST of the stomach. Post operatively patient received Imatinib therapy and is doing well on follow up. Although rare, GISTs should be considered in the differential diagnosis of perforated GI lesions.

Keywords: GIST, Perforation peritonitis, Imatinib mesylate, Case report

INTRODUCTION

Gastrointestinal stromal tumours (GISTs) are some of the common GI tract tumours with an incidence of 11-19.6 per million population.[1] They arise from the muscularis propria layer, anywhere along the whole length of the GI tract with stomach being the most common site.[2] Generally, they are benign with the histology showing presence of spindle cells, epithelioid or pleomorphic tissue being CD 117 antigen positive.[3] The most common presentation is abdominal pain or GI bleeding which can manifest as anaemia or acutely as upper GI bleed.[4]

Perforation peritonitis as the initial presentation is a rare entity with only a few cases reported.[4] Here we describe a case of gastric GIST presenting with perforation and its course of management.

CASE REPORT

A 50-year-old male with no co morbidities presented to the emergency department with complaints of fever, abdominal pain, vomiting and obstipation since 5 days. Further questioning revealed a 2-month history of reflux disease and intermittent dull aching upper abdominal pain. On examination, patient was febrile, with a systolic BP of 70 mmhg, Pulse Rate of 122/min. Per abdominal examination revealed a distended abdomen, with generalised tenderness, guarding and rigidity with absent bowel sounds.

After rapid resuscitation and stabilization of the patient, erect chest and abdominal radiographs were obtained. Abdominal X-ray revealed dilated small bowel loops without any free gas under the diaphragm as shown in Figure 1. An abdominal CT scan was performed which showed moderate peritoneal collection with air echoes and dilated small bowel loops.

The patient underwent emergency laparotomy. About 2 litres of purulent exudate was found intraoperatively along with diffuse inflammatory reaction of the peritoneum. Dense interloop bowel adhesions were found. A mass was seen arising from the distal part of the body of the stomach along the greater curvature of size approximately 10x8 cm perforating the whole thickness

of gastric wall as shown in Figure 2. Resection of the distal portion of the body of the stomach containing the mass was performed as shown in Figure 3, followed by thorough peritoneal irrigation and toileting. Primary closure of the stomach wall with continuous double layer suture technique was done. No other significant finding noted intraoperatively.

Patient developed wound dehiscence post operatively which was managed by regular dressings and secondary suturing. The post operative period was otherwise uneventful. On histopathological examination, the specimen was described as a globular mass at the serosal surface of the stomach wall measuring 5.5×5×2.2 cm with solid, firm and greyish white cut surface. Histological type of the tumour was GIST, Spindle cell type. The mitotic index was 10/25 high power field and histological grade being high. All margins were clear with a TNM staging of PT3N0Mx.

All these findings pointed towards the diagnosis of a high-grade GIST of the stomach. Soon after the confirmation of diagnosis by histology, patient was started on imatinib mesylate therapy at the daily oral dose of 400 mg and is being monitored on follow up.

Figure 1: Abdominal X-ray revealed dilated small bowel loops without any free gas under the diaphragm.

Figure 2: Globular mass along the greater curvature of stomach with perforation.

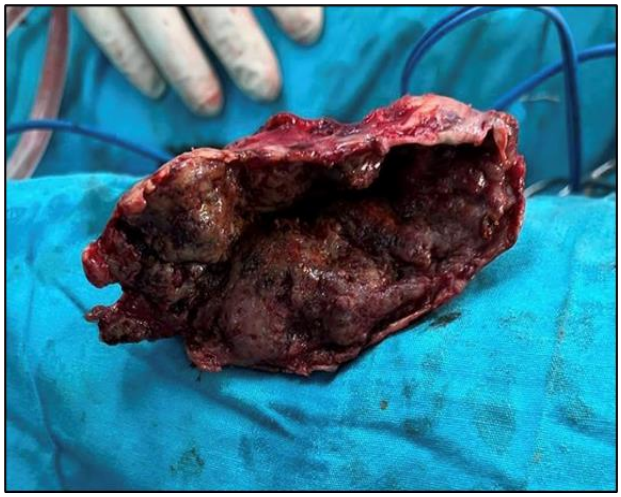

Figure 3: Resected specimen showing a solid, firm, greyish white cut surface.

DISCUSSION

Despite high incidence of gastric GISTs, presentation as perforation peritonitis is quite rare with only few cases reported in the literature.[4] However, small intestinal GIST presenting as perforation is seen more frequently.[2,5] Thicker gastric wall or recognition of upper GI symptoms make gastric GIST to be detected earlier preventing devastating complications like perforation.4 This patient gives a history of chronic symptoms which if evaluated could have led to early detection.

Previous case reports describe that GISTs with malignant potential have a higher chance of perforation.[2,6,7] Similar to such trend, the present case of high-grade GIST with malignant potential presented with perforation peritonitis. Diagnosis of such a case would follow a plain radiograph and CT if feasible in the emergency setting prior to an exploratory laparotomy. Diagnostic laparoscopy with a minimally invasive approach has also been reported as an option for successful management.[8] Facing such a situation after exploratory laparotomy should force the surgeon to proceed with a wide local excision with repair.[9]

Post operative histopathological examination with prognostic grading would guide for the adjuvant imatinib mesylate therapy.[7] Other tyrosine kinase inhibitor agents such as sunitinib has also shown to be of some value.[10] Prognosis in patients presenting with perforation quite guarded with the mortality rates being upward of 25%.[11] Early diagnosis, laparotomy with thorough peritoneal toileting, surgical resection and repair is the key to good outcome.

CONCLUSION

Although quite rare, it is important for the surgeons to know about the presentation of gastric GIST with perforation peritonitis for early recognition and prompt

management. This group of tumours should be considered as a differential diagnosis of gastric and other GI masses presenting as perforation. Complete surgical resection with or without adjuvant imatinib mesylate therapy is the appropriate option.

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