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Case Report

Acute intestinal obstruction due to gastrointestinal stromal tumours: case report

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ABSTRACT

Gastrointestinal stromal tumours (GIST) as such is a rare disease, but according to some study it may end up to malignant type in approximately 10-30%. Herein we present a 2 cases of GIST who presented with acute intestinal obstruction in emergency department. In imaging studies (X-ray erect abdomen, ultrasonography abdomen), it showed a features of intestinal obstruction but could not rule out the exact mechanism or pathology behind the obstruction. As commonly adhesions is a main culprit behind the cause of acute intestinal obstruction in case of any post-operative patient. So, we try to highlight that in case of any old aged individual and in virgin abdomen GIST should be keep in mind as a cause of intestinal obstruction.

Keywords: GIST, Acute intestinal obstruction, Adhesions

INTRODUCTION

In 1983, Mazur and Clark, first termed gastrointestinal stromal tumors (GISTs), as a rare mesenchymal tumor of the alimentary tract.[1]

GIST accounts for 20% of the malignant neoplasms of small bowel and is raised from mesenchymal tissue.[2] In approximately 10–30% it may proceed to malignancy.[3]

These tumors commonly involve the jejunum and ileum, and is typically diagnosed in the fifth and sixth decades of life, and there is a high predilection for male.[2] Bleeding and obstruction remains the high indication for surgery, but it may be presented with perforation as a result of hemorrhagic necrosis. The prognosis of malignant GIST is earlier considered to be poor because of the high recurrence rate. However, a recent studies and trial has shown that adjuvant therapy with imatinib mesylate has significantly improved the survival.

In this case report, we have presented a 2 cases of an acute intestinal obstruction due to GIST of small bowel.

CASE REPORT

A 55 years old man attended the emergency room, presented with acute pain abdomen and distension of abdomen for 3 days and 5 days respectively. On clinical examination, abdomen was tensely distended, guarding rigidity was present. No lump is felt. Peristalsis sound was absent. On digital rectal examination (DRE), it was stained with stool. X-ray showed multiple air fluids level (Figure 1). Ultrasonography (USG) abdomen findings reported to be acute intestinal obstruction. On exploratory laparotomy, a large 15×10 cm mass originating from jejunum was noted i.e. approximately 80 cm from duodenojejunal junction (DJ) (Figure 2). No adherence to adjacent structures was noted. Resection of mass with end to end jejuno-ileal anastomosis was performed. Biopsy reported to be gastrointestinal stromal tumour and resection margin

was free of tumour (Figure 3). Immunohistochemistry (IHC) for CD117 was positive. Patient recovered and discharged. Patient is follow-up for 1 year and was advised CECT abdomen; it came to be a normal study.

Figure 1: X ray erect abdomen showing multiple air-fluids level.

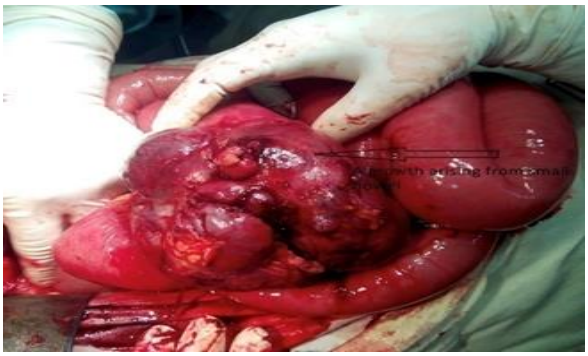

Figure 2: Intraoperative picture of a growth.

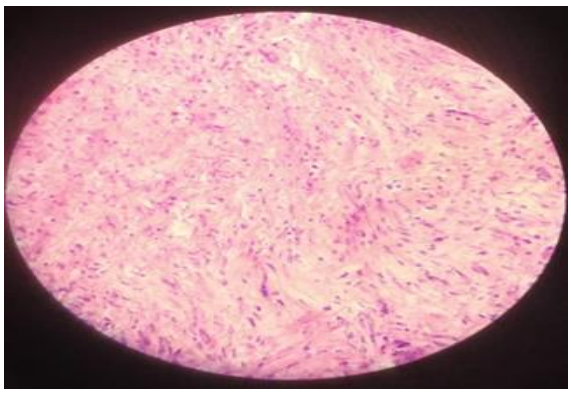

Figure 3: Microscopic image of GIST.

In another case, a 51 years old man presented in an emergency department with an acute abdomen. The patient had a complaint of pain abdomen and distension of abdomen for 3 days and 5 days respectively. On clinical examination, abdomen is distended, whole abdomen tenderness and a vague lump was noted. X ray abdomen and USG was done. X ray abdomen shows features of bowel obstruction and USG abdomen show dilated bowel loop proximal to a growth from small bowel. After proper resuscitation, exploratory laparotomy was performed. Intra-operatively, a growth arises from small bowel i.e. ileum approximately 10 cm×12 cm (Figure 4). No adjacent infiltration or lymph node noted. Wide local resection was performed and primary ileo-ileal anastomosis was done. Biopsy and IHC confirmed GIST and margin is free.

Interestingly both the patients do not have any previous history of abdominal surgical intervention.

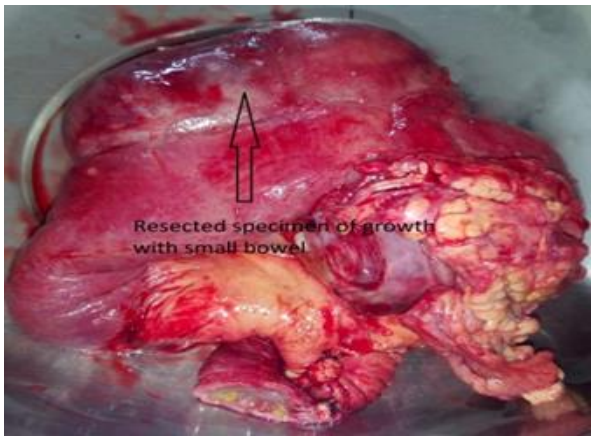

Figure 4: Resected specimen of the growth.

DISCUSSION

GISTs are not common and it accounts approximately 0.1-3 % of all gastrointestinal tumors. Its involvement is common in stomach (60-70 %), small intestine (20-30 %).[4] In the present case also, growth arises from jejunum and ileum. It is noted that GIST also arises from other than the bowel wall in 10% (e.g. omentum, peritoneum, mesentery, gall bladder, liver etc.) so it is also known as EGIST (extra GIST).[5] EGIST characteristics is similar to GISTs in respect to histopathology and immunohistochemistry. GIST arises from interstitial cells of Cajal and primitive stem cells from which both Cajal cells and smooth muscle cells originate.[6] Depending on tumor size and anatomical sites, manifestation of GIST varies. Mostly it is observed that GISTs less than 2 cm in size are usually asymptomatic, but larger GISTs present with symptoms like upper abdominal pain, fullness, gastrointestinal bleeding, intestinal obstruction and palpable mass due to mass effect and its complications. In the present case, the growth was large and it causes a bowel obstruction. Intraluminal growth i.e. tumor arises from muscularis mucosa or muscularis propria of small intestine commonly presents with intestinal obstruction and bleeding. Exophytic GIST presents as a mass lesion and intestinal perforation.[7] It is reported that in less than 10% of cases, the cause of intestinal obstruction is attributable to GIST.[8]

Immunohistochemically, GIST are commonly positive for CD117 approximately (95%), CD 34 (70%) and SMA (30-40%) respectively. In 5%, tumors are positive for PDGFR mutation.[9] In the present study, CD117 was also positive.

The gold standard treatment for non-metastatic GIST is en bloc surgical removal. It is strictly recommended that the mass should be removed en bloc with the contiguous tissues and avoidance of tumor rupture and spillage be maintained. The specific therapy targeting the kit receptor i.e. imatinib has resulted in improved outcome for patients with unresectable, metastatic and recurrent disease.[10]

CONCLUSION

Based on the studies and the present case it shows that GIST has predilection for a small bowel, older aged male individual, could present with intestinal obstruction and has a better prognosis if resected margin is free. Though uncommon, GIST may be a primary cause of bowel obstruction in an old aged patient. So it should be kept in mind of GIST, in any old aged male patient with virgin abdomen and any growth involving a small bowel presenting with acute bowel obstruction until proven otherwise.

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