Sigmoid 'GIST' Masquerading as Intestinal Obstruction

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ABSTRACT

Gastrointestinal stromal tumours (GIST) are one of the most prevalent mesenchymal tumours of the digestive tract despite constituting less than 1% of all gastrointestinal cancers. GISTs usually occur in the stomach followed by the small intestine and rarely in the colon and esophagus. Furthermore, colorectal GIST is usually in the rectum, so sigmoid GIST is rather uncommon. Abdominal pain, GI bleeding, anaemia, and weight loss are the common presentations of the affected patients.

Large bowel obstruction is defined as bowel obstruction distal to the ileocaecal valve, commonly caused by an underlying carcinoma or less commonly diverticular disease Acute obstructions present with rapid onset of pain, distension, and abdominal tenderness.

Here is a case of a 58-year-old gentleman who presented with acute large intestinal obstruction with no significant previous history and underwent emergency laparotomy with resection of sigmoid colon with a tumor, which on histopathology was diagnosed to be a high-grade GIST.

Keywords: HIPEC, Hyperthermic Intraperitoneal Chemotherapy, Cytoreductive Surgery, Debulking Surgery, Peritoneal Surface Malignancy

*See End Note for complete author details

CASE REPORT

A 57-year-old male presented to surgery OPD with lower abdominal pain for 2 days, no h/o previous episodes. He is a known case of hypertension and diabetes mellitus. On examination abdomen was soft, non-tender, no mass palpable and he had a reducible right inguinal hernia. Initial investigations including imageology were inconclusive. He was managed symptomatically with an advice to follow up. The possibility of recurrent intestinal obstruction was considered.

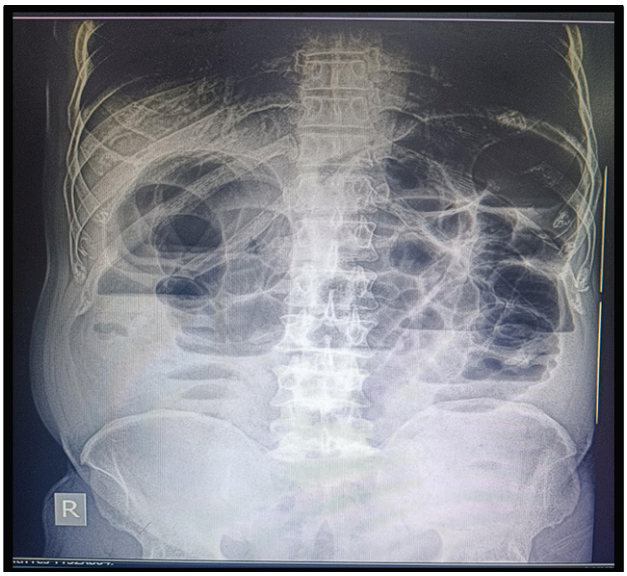

Figure 1. **Erect X ray abdomen showing multiple air fluid levels**

Over the next 2 days, the severity of pain increased, he developed distension, and constipation and had multiple episodes of vomiting. On examination, he had a distended abdomen. Erect X-ray abdomen showed multiple air fluid levels **(Figure 1)**. A

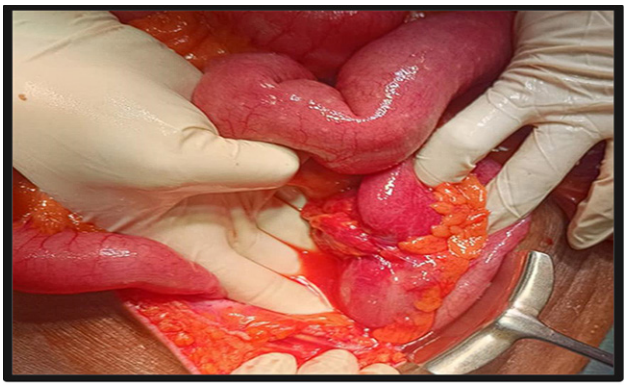

Figure 2. **Intraoperative photo showing the constricting growth**

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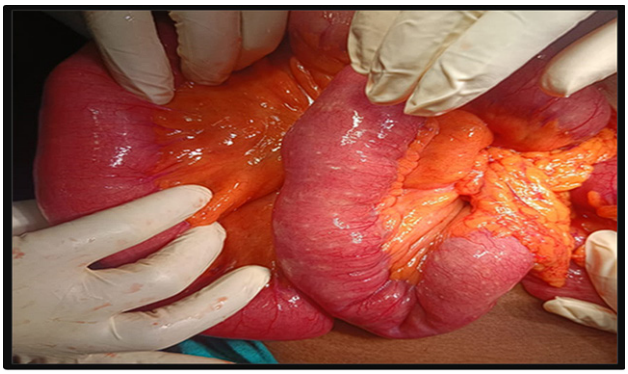

Figure 3. **Intraoperative photo showing deposits over small bowel**

nasogastric tube was inserted and drained bilious fluid. Diagnosis of acute intestinal obstruction was made.

CECT ABDOMEN AND PELVIS

CECT Abdomen and pelvis revealed features of acute intestinal obstruction - colonic loops with sudden narrowing at the sigmoid colon, multiple regional pericolic lymph nodes, multiple paraaortic and mesenteric lymph nodes, and minimal ascites.

SURGICAL MANAGEMENT

He underwent an emergency explorative laparotomy which revealed moderate ascites, a growth (ring-like) constricting the rectosigmoid junction with omental adhesions, dilated small bowel loops, omentum adherent to rectosigmoid, deposits in the small bowel loops, dense adhesions to omentum and other pericolic structures **(Figure 2 to 6).**

He underwent resection of the sigmoid colon with the tumour (5 cm proximal and distal margin), distal stump closed and proximal stoma exteriorized.

The postoperative period was uneventful.

HISTOPATHOLOGY

Histopathology revealed a poorly differentiated malignant tumour with pleomorphic spindle and epithelioid

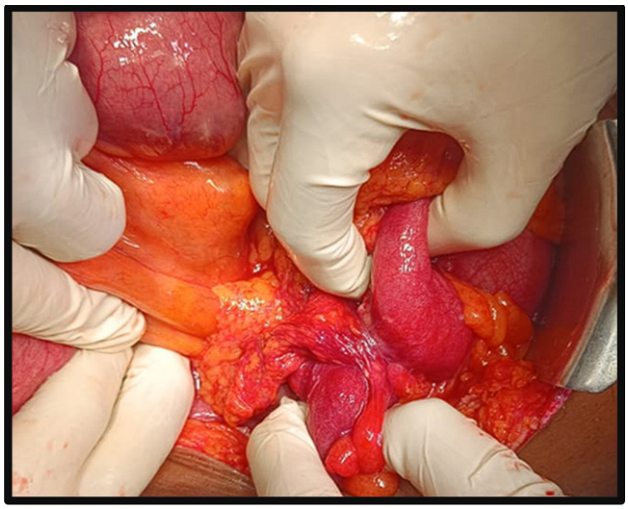

Figure 4. **Intraoperative photo showing constricting lesions with dense adhesions to adjacent structures**

cells **(Figure 7)**. Immunohistochemistry was done which showed DOG1 3+ positive in the tumor cells. The cells were negative for CD 117, S100 and Desmin, With these morphological and IHC features, the diagnosis of GIST, Pleomorphic type was given. pT3 with maximum tumour dimension, 6 cm (circumferential), invasion into the muscularis propria; high grade (20 mitoses / 5 mm^2); Closest deep margin clearance 0.5 mm; 10/14 lymph nodes – positive (pN1)

FURTHER MANAGEMENT

Medical oncology opinion was sought, and they advised further management with Imatinib.

On further follow-up after 2 months, the patient had developed severe low back pain. MRI lumbosacral region revealed multiple metastatic lesions spine. He succumbed to death.

DISCUSSION

Gastrointestinal stromal tumour (GIST) is a mesenchymal tumour of the digestive tract that originates from the interstitial cells of Cajal. Though the most common

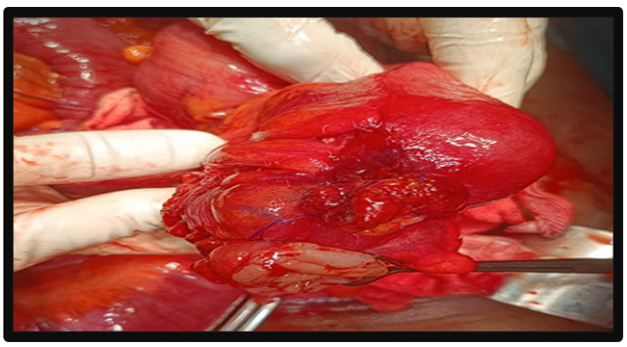

Figure 5. **Introperative photo showing distal end**

Figure 6. **Resected specimen**

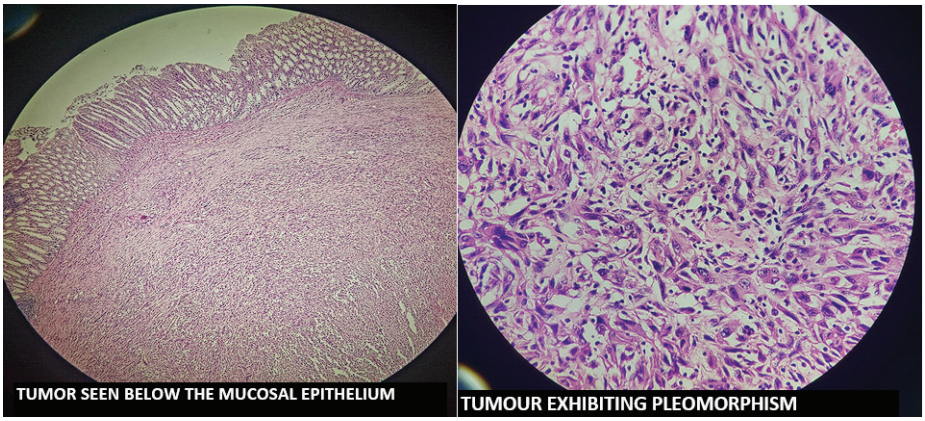

Figure 7. **Histopathology images**

mesenchymal tumours of the Gastrointestinal tract, they make up only 1% of primary GI cancers.[1] Most GISTs usually occur in the stomach followed by the Small intestine and rarely in the colon and esophagus. Furthermore, colorectal GIST is usually in the rectum, so sigmoid GIST is rather uncommon.[4]

Oncogenic mutation of the KIT gene, a transmembrane receptor responsible for the regulation of tyrosine kinase is an oncogenic driver event in the development of GISTs. PDGFRA gene is the second most common driver mutation in GISTs. Targeted treatment with Tyrosine kinase inhibitors, Imatinib and Sumitinib are found to be very effective.

Patients often present with abdominal pain, GI bleeding, anaemia, or weight loss. Low-lying GISTs may be felt as a smooth, firm mass on digital rectal examination. They usually appear as large, well-circumscribed, eccentric masses that enhance with intravenous contrast.[1]

Large bowel obstruction is defined as bowel obstruction distal to the ileocecal valve, caused by an underlying carcinoma or less commonly diverticular disease and presents in an acute or chronic form.[2] GISTs are a rare cause of large bowel obstruction.

Resection is the gold standard treatment for GIST, followed by chemotherapy. Also, the patients need lifelong follow-up.[1,4]

Colorectal GIST are associated with lower overall survival than small bowel GIST. Chemotherapy with radical resection offers better overall survival in small bowel GIST, but not in Colorectal GIST.[3,4]

END NOTE

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Conflict of Interest: None declared

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