INTRODUCTION

Introduction: Gastrointestinal Stromal Tumours (GISTs) are rare mesenchymal tumours of the alimentary tract. They are believed to result from activation of mutation in proto-oncogene like c-KIT or platelet derived growth factor receptor alpha polypeptide. These mutations increase tyrosine kinase receptor activity, resulting in uncontrolled proliferation of stem cells that differentiate into intestinal cells of Cajal, in and around myenteric plexus. Approximately 95% of GIST are positive for CD 117. The most important prognostic factor related to these tumours are the mitotic index, size and location. Small intestine is second most frequent site after stomach. GIST of jejunum are rare account for only 0.01-0.03% of gastrointestinal tumours. GIST occurs commonly in middle aged and older populations and is rare before the age of 40 year. The common presentation of jejunum GIST is abdominal discomfort. A few cases (25%) present with melena, hematemesis, and anaemia due to recurrent bleeding. They rarely present with massive gastrointestinal hemorrhages requiring urgent intervention.

Case Report

Chief complaints:
A 52-year-old female patient admitted from casualty with chief complaint of bleeding per rectum and passing blood clots since last 2 days.
**History of present illness with vital parameters:**
On physical examination, she was fully conscious and oriented but appeared pale. Her pulse rate was 124 beats per minute and blood pressure was 102/68 mmHg. On systemic examination, patient had soft and non tender abdomen with no significant results. On per rectal examination, hematochezia revealed. Nasogastric tube and Foley’s catheter was inserted for output monitoring.

**History of past illness:**
Patient is diagnosed case of DM TYPE-2 and Hypertension with new onset of ECG changes in the form of VPC with Echocardiography suggestive of dilated LV WITH LVEF 55%.

**Laboratory and radiological investigations:**
Blood test shows microcytic hypochromic anaemia and had hemoglobin of 4 mg/ dL and PCV of 23.8%. Bleeding and coagulation parameters were within normal rang. After initial resuscitation, patient underwent upper GI Scopy and colonoscopy. Upper GI scopy was normal and Colonoscopy showing massive blood clots with no identifiable source of bleeding. Initial resuscitation with fluids and massive blood transfusionwas done. Further, CECT + Angiography (Abdomen and Pelvis) Suggestive of approx. 6.4 X 4.4 X 4.2 (AP x SI x ML) CM$^3$ sized exophytic soft tissue density lesion seen arising from jejunal loops which shows significant post contrast enhancement on subsequent phases. Findings are S/O neoplastic etiology (histological correlation suggested). There was no regional nodal involvement and no hepatic focal lesion.

**Operative intervention:**
After the patient was stabilized hemodynamically, she underwent for emergency exploratory laparotomy with resection of jejunal exophytic mass lesion segment with jejunoojejunal anastomosis. The tumor was found arising from the jejunum about 80 cm from Treitz’s ligament. It was freely mobile with intact serosal covering. There was no intra peritoneal haemorrhage. Resection was performed using 5 cm clearance margin on each side of tumor. Two layers jejunoojejunal end-to-end anastomosis was done. Postoperative period was uneventful. Patient was started on oral feeding on 5th post-operative day. Discharged on 10th post-operative day.

**Macroscopic findings:**
The specimen consisted of a segment of small bowel measuring 10 cm in length and 4.0 cm in width. On opening, there was a well-circumscribed polypoid pale pink tumor projecting into the bowel lumen and extending externally to the serosal surface. The tumor measured 6.4 X 4.4 X 4.2 cm$^3$ in maximum dimensions. The mucosa surface was lacerated containing clotted blood vessels, but the serosal surface appeared intact with no evidence of rupture.

**Microscopic findings:**
The sections showed spindle cells arranged in interlacing fascicles, storiform and diffuse pattern with interspersed and scattered aggregates of inflammatory infiltrate predominantly consisted of lymphocytes and few plasma cells. Cells were spindle shaped with ovoid/ cigar shaped nuclei, finely granular chromatin with eosinophilic cytoplasm seen. Focally myxoid areas and areas of hemorrhage along with dilated and thrombosed vessels were seen. Mitosis (<5/5 mm$^2$) were seen. Tumor was reaching up to serosa. Mucosa was not involved. Areas of necrosis was not seen. Overall, histological features were suggestive of gastrointestinal stromal tumor (GIST) - spindle cell type
Histological grade: G1 low grade  
Risk assessment: Low risk  
Pathological stage: pT2

**DISCUSSION**

Gastrointestinal stromal tumor are relatively rare tumor arising from interstitial cells of Cajal, located in and around the myenteric plexus and act as intestinal pacemaker cells and currently regarded as a mesenchymal tumors containing spindle cells (70%) and showing CD 117 positivity in more than 95% of resected GISTs specimen. Other cell variety include epithelioid cell (20%) and mixed cell (10%). Important immunohistochemical markers are C-KIT (90% cases), DOG1, CD34 and CD117. In C-KIT negative cases, platelet-derived growth factor receptor alpha (PDGFRA) mutation has been identified. While 10% of GISTs are identified as may arise from other pathogeneses, such as deficiency of succinate dehydrogenase or BRAF mutations. Most common site of origin is the stomach followed by small intestine, while jejunal GISTs are very rare tumor remain asymptomatic or present ed with vague abdominal pain and palpable mass if it is large enough. Sometimes it is presented with recurrent episode of melena, positive stool occult blood test, unexplained blood loss anaemia with usual negative findings of upper and lower gastrointestinal endoscopy. Bleeding may be intraluminal and extra luminal with reported few cases of spontaneous hemoperitoneum due to extraluminal bleeding.2,4 Bleeding may be acute (haematmesis or melaena) or chronic (anaemia). Massive GI Bleeding is relatively rare complication of GIST but is life threatening. Although, Most of guidelines suggest that GIST which are asymptomatic should be managed conservatively, complication of life threatening haemorrhage has put a big question on conservative management.1 Accidentally detected small size GISTs may be treated conservatively, endoscopic resection or plan for elective angiembolization of feeding vessels. However, large size symptomatic GISTs with life threatening bleeding may required urgent preoperative massive blood transfusion and urgent surgical intervention.2 Tumor is radio-resistant and not sensitive to conventional chemotherapy. Imatinib is tyrosine Kinase inhibitor that has shown effective in advanced cases and may have role in adjuvant treatment. Imatinib gives a 14% absolute reduction in recurrence rate, achieving 97% recurrence free survival.

**CONCLUSION**

Gastrointestinal stromal tumor (GISTs) represents small number of cases presented in clinical practice with vague clinical symptoms, not correlated with the primary diagnosis of GISTs. Small size GISTs may be identified on routine diagnostic workup of vague clinical presentation, and may treated conservatively. GISTs may be unidentified on routine workup, upper as well as lower gastrointestinal endoscopy and needed further diagnostic workup including contrast enhanced CT scan of abdomen and pelvis, mesenteric vessels.
angiogram (to identified bleeding vessels/feeding vessels for angioembolization purpose). Preoperative diagnostic uncertain tumor must not diagnosed by FNAC, as there is high risk of tumor seedling and risk of haemorrhage. Small size asymptomatic GISTs in hemodynamic stable patients may be treated less invasive procedure like endoscopic procedure if location is easy to reach, laparoscopic resection and anastomosis, angioembolization of bleeding/feeding vessels. However, patient presented with massive gastrointestinal haemorrhage with hemodynamic instability with diagnostic uncertainty regarding GISTs, need active resuscitation with massive blood transfusion followed by urgent exploratory laparotomy to identify the source of bleeding sos resection of tumor followed by immunohistochemical diagnosis of excised specimen. In addition, patient may put on Imatinib adjuvant chemotherapy with regular disease surveillance.

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Dr. Pavankumar M. Khunt: corresponding author, conceptualization, writing-original draft and writing-review and editing the report.

Dr. Jignesh Shah and Dr. Dipen Shah: Gave immense guidance in preparing this case report, help in writing discussion and conclusion.

REFERENCES