

## Perforation Peritonitis: A Rare Initial Presentation of Gastro Intestinal Stromal Tumors GIST's.



### Medical Science

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**Dr. Vijay haralgat seetharamaiah**

Post graduate resident, S.P.M.C Bikaner

**Dr.Ranganatha .d.n**

Post graduate resident, S.P.M.C, Bikaner

**Dr. Umrao singh**

Post graduate resident, S.P.M.C, Bikaner

**Dr. Mahesh joshi**

Post graduate resident, S.P.M.C, Bikaner

### ABSTRACT

*GIST's are the commonest mesenchymal tumors of gastrointestinal (G.I) system with incidence rate of 10-20 per million people [1]. Stomach is the most common organ involved followed by small intestine [2,3]. GIST's can be benign or malignant in nature. Only 70% cases are symptomatic, rest 30% are asymptomatic. Gastro intestinal bleeding in the form of melaena, hematemesis or anemia is the most frequent presentations. [3] Other manifestations of GIST's are mass effect, intestinal obstruction, pain abdomen, symptoms of metastasis. [4] GIST's originates from pacemaker cells known as interstitial cells of cajal. [5] Perforation peritonitis is a rare presentation of GIST's. In past, diagnosis of GIST's been difficult, but at present due to development of methods to identify C-kit oncogene, diagnosis has become ease [6]. Here we are reporting a case of jejunal GIST initially presenting as perforation peritonitis in 26 year old male.*

### Introduction:

GIST's are the most frequently occurring mesenchymal tumor of GI system, which can be seen in any part of G.I system with the incidence rate of 1-3% [1]. Stomach being the most common organ (40-60%), followed by small intestine 30-40% [2,3]. GIST can vary from small to large size can be single or multiple and benign in 70-80% cases. [7,8.] GIST can be asymptomatic & 30% of cases are diagnosed at autopsy. [3] In adults, male have higher incidence compared to females with median age of 55years. [1]. In 70% of cases, GIST's are symptomatic, with G.I bleeding in various forms as frequent presentation [3]. Tumors of size 6cm or more are troublesome having mass effect on surrounding structures [3]. Other symptoms include pain abdomen, rarely intestinal obstruction and can have metastatic presentation in 10-25% of cases [3]. GIST's are associated with c-kit, PDGFR abnormalities [1]. GIST's arises from pacemaker cells of G.I tract known as Intestinal cells of Cajal [1]. A definitive diagnosis is only possible with biopsy of tumor. On histopathological examination, biopsy may show spindle cells in 70-80% and epithelioid cells 20-30%. In case of doubtful diagnosis, immuno-histochemistry for CD117, CD34, DOG-1, desmin and vimentin can be done. Out of these CD117 is positive in 95% of cases of GIST [1].

### Case Report:

A 26 year male, presented to casualty with a history of pain abdomen since 2 days, acute onset, severe in nature, initially around the umbilicus, later on progressed to the whole abdomen and also 3 episodes of bilious vomiting. There was no history of fever, blood in vomitus, blood in stools, black coloured stools, and jaundice with this episode. Past history was insignificant. At admission patient was afebrile with 120 pulse/ minute with normal blood pressure and signs of dehydration. Abdomen was distended with diffuse tenderness and signs of peritonitis. Fluid thrill was present and Bowel sounds were absent. Routine investigations were normal except with raised total counts. Ultrasound abdomen had moderate free fluid with echogenic content. Erect X-ray abdomen showed free gas under right diaphragm. Patient underwent exploratory laprotomy and it revealed

1) Peritoneal fluid of about 1.5liters with bilious tinge.

2) A tumor of size 5\*3cm present on the anti-mesentric side of jejunum, almost 2 feet distal to duodeno-jejunal junction.

3) Surface of tumor showed two perforations, of sizes about 1\*1.5cm and 0.5\*1cm, separated with tumor mass of 1cm between them.

Patient underwent resection of tumor with healthy margin of 5cm both proximally and distally, followed by end to end jejuno-jejunal anastomosis. Abdomen was closed in regular manner with abdominal drain in situ. Resected specimen was sent for biopsy. Post operative period was uneventful. Patient was on continuous Ryles tube suctioning for 5 days, followed by which patient was started on diets. Biopsy of specimen showed the features of benign GIST, which was confirmed immuno-histochemistry for CD117.

### Discussion:

GIST's are mesenchymal tumors of G.I tract. 30% of cases are asymptomatic and in rest 70% symptomatic patients [3], bleeding in G. I tract is the most common complain. Bleeding of GI tract can present with haemetemesis, melaena, haematochezia and anaemia [3]. Other symptoms can be of intestinal obstruction and mass effect on the surrounding structures. Perforation of GIST is rare phenomenon. Here we are reporting a male patient who was in his 20's presenting as a case of perforation peritonitis with previous insignificant complaints. Patient was undiagnosed for GIST's until exploratory laparotomy, where in laparotomy perforation was noted in jejunal tumor, which on biopsy turned out to be benign GIST of jejunum.

### Conclusion:

Even though GIST's forms the commonest form mesenchymal tumor of G.I tract, it is only accounts for small number cases, i.e, 1-3% cases.[1] In symptomatic patients, literatures suggest bleeding from G.I tract as frequent manifestation and in asymptomatic patients it can be incidental findings on imaging. GIST's can be identified by ultra sonography CECT, and MRI abdomen but a definitive diagnosis is only by histopathological examination and immuno-histochemistry for CD117 etc. Perforation

peritonitis can also be a rare initial presentation of GIST's and only few cases of this variety has being reported till date.



**Fig 1:** intra operative photo showing GIST with fungating surface and tip of the forceps in the perforation.



**Fig 2:** intra operative photo showing jejunal GIST arising from

the antimesenteric border of the jejunum. Tumor is fungating in nature with a perforation on the surface. Healthy adjacent jejunal loops also can be seen.

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