

Jejunal Gastrointestinal Stromal Tumor Causing Perforation Peritonitis In A Young Male: A Case Report.

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Citation

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Abstract

Gastrointestinal stromal tumor is a mesenchymal variety of a small intestinal tumor usually presenting with bleeding from upper gastrointestinal tract in the 5th to 7th decade of life. Presentation of GIST as perforation of small bowel in a young male is rare. Herein we report such a rare case of exophytic gastrointestinal stromal tumor causing perforation of jejunum in a young male.

INTRODUCTION

GIST is a rare tumor of the gastrointestinal tract representing only 0.2% of all GI malignancies. GISTs are difficult to diagnose and often advanced at the time of definitive treatment. Symptoms are highly dependent on the size and location of the tumor. GIST is characterized by indolent clinical symptoms including vague abdominal pain, weight loss, occult GI bleeding and obstruction, which is caused by the growing tumor.¹ GISTs can occur anywhere in the gastrointestinal tract. They are submucosal lesions, which most frequently grow endophytically in parallel with the lumen of the affected structure. Here we report an unusual case of an exophytic GIST which originated from the small bowel causing perforation of jejunum in a young male managed with end-to-end jejunojejunal anastomosis.

CASE REPORT

A 35-year-old male patient presented in emergency with complaints of a pain abdomen, nausea, vomiting, and fever. Past medical history was noncontributory. He had no prior abdominal operations. Physical examination revealed a tense tender distended abdomen with rigidity. Routine laboratory investigation revealed a raised total leukocyte count $16000/\text{mm}^3$. Abdominal X-ray (erect) showed gas under both domes of diaphragm. A diagnosis of perforation peritonitis was made and the patient was taken up for emergency operation. At operation, there was a tumor mass of $4.5 \times 3.5 \times 2.5\text{cm}$ present on the proximal jejunum with perforation on the antimesenteric wall (figure 1). The part of jejunum containing the tumor was excised (figure 2) and an end-to-end jejunojejunal anastomosis was done; the tissue was sent for histopathological examination.

Macroscopic examination of cut surface of the tumor was gray-white to whitish fleshy and appeared to arise from the intestinal wall. The tumor mass showed a central area of cavitations filled with necrotic material. On microscopic examination, a spindle cell tumor lying in the submucosa and the muscularis layer was seen. The tumor cells were arranged in fasciculate bundles, at places showing loose texture and neural differentiation. Mitotic activity was >5 per 10 hpf (figure 3). On immunohistochemistry, the tumor was CD-117 positive. This is suggestive of GIST. The patient was discharged on the 10th postoperative day and a two-year follow-up course of the patient is uneventful.

Figure 1

Figure 1 showing an exophytic intestinal mass with perforation

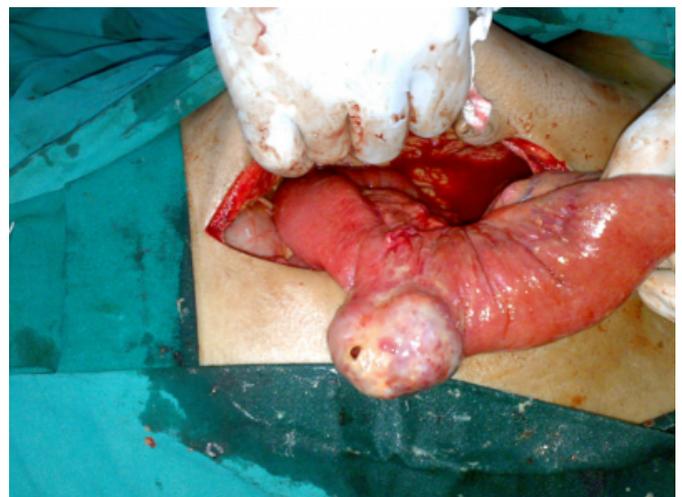


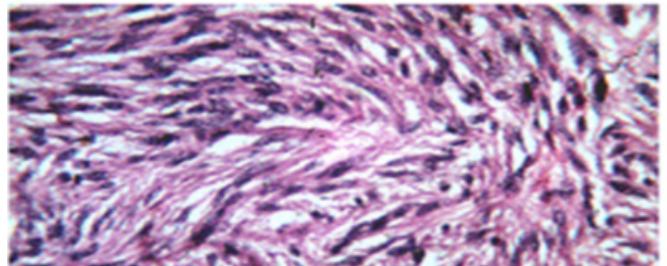
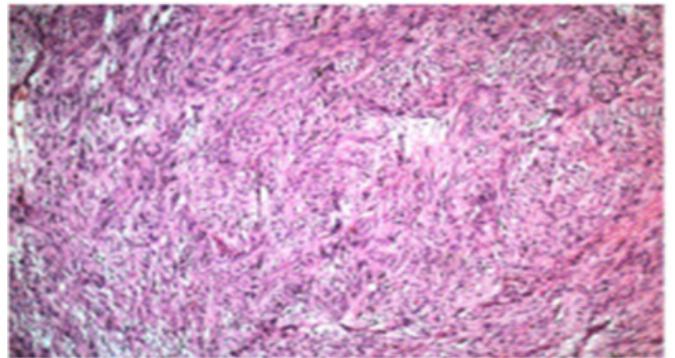
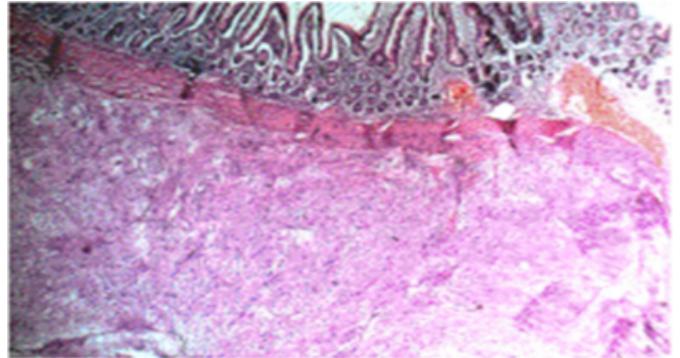
Figure 2

Figure 2: Resected specimen of the GIST



Figure 3

Figures 3 a, b, c: Microphotographs showing a mesenchymal tumor; Hematoxylin-Eosin, x4 (3a), x10 (3b) and x40 (3c)



DISCUSSION

Gastrointestinal stromal tumors are rare neoplasms of the gastrointestinal tract ranking a distant third after adenocarcinomas and lymphomas. GISTs can occur anywhere in the gastrointestinal tract. They are submucosal lesions that often grow intraluminally. Sometimes they have an extraluminal exophytic component. The stomach (60%) is the commonest site followed by small intestine (30%), duodenum (5%), colon/rectum (5%) and esophagus (<1%). Primary mesenteric, omental and retroperitoneal GISTs have also been reported, but they are quite rare.²

GIST is observed predominantly in adults at a median age of

58 years. The incidence is equal in men and women. It rarely presents in younger age, but in our case, the patient presented at the age of 35 years. GIST arises from interstitial cells of CAJAL, pacemaker cells of the gastrointestinal tract responsible for initiation of peristalsis.³ GISTs are currently defined as CD-117 positive spindle cell or epithelioid neoplasms with minimal or incomplete myogenic or neural phenotype.^{4,5}

Clinical presentation of patients varies according to site, size and aggressiveness of the tumor. Symptoms manifest when the tumor is large (>5cm) or situated in a critical anatomical location (e.g. causing gastric outlet obstruction).⁶ Symptoms may include abdominal pain, mass, nausea, vomiting, anorexia and weight loss. Patients may present with gastrointestinal bleeding (due to pressure necrosis and ulceration of the overlying mucosa) or with obstructive symptoms. An extensive review of the literature regarding GISTs revealed only two reports of the tumor presenting as a perforation^{7,8}, out of which one was a gastric perforation and the second one was jejunal. So, ours is the second reported case presenting as a jejunal perforation in addition with exophytic growth. Definitive surgery remains the mainstay of treatment for patients with localized primary GIST.

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