

A Giant Cystic Stromal Tumor in the Proximal Jejunum Mimicked As a Periappendicular Abscess

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Abstract

Gastrointestinal stromal tumors (GISTs) usually present as a solid mass arising from the interstitial cells of Cajal, which often exhibit non-specific in laboratory test and features clinically varies with the size and location of tumors. Hereby, we report a case of jejunal GIST with cystic change mimicking as periappendicular abscess that could not be confirmed preoperation. A 45-year-old female was admitted to our hospital emergency department with increasing abdominal distension with pain in the right lower abdomen. Physical examination revealed a large mass with peritoneal irritation sign in the right lower abdomen. A contrast-enhance computed tomography (CT) scan of the abdomen revealed a large cystic lesion located in lower abdominal, but the source of the mass could not be determined. Acute episode of chronic appendicitis with periappendicular abscess was suspected. Intra-operatively the mass was an 11 x 8 x 8 cm cyst with approximately 500 ml serous fluid present inside it arising from the anti-mesenteric border of the jejunum which was about 10 cm away from the duodenojejunal junction. The mass excised along with resection of the involved jejunal segment was done. The final diagnosis of a jejunal GIST was made by immunohistochemistry study. The patient recovered well postoperative. The latest CT scan did not show any evidence of recurrence or metastasis following a 19-month follow-up.

Abbreviation: GIST = gastrointestinal stromal tumor, CT = computed tomography

Keywords: Gastrointestinal stromal tumor, Jejunal tumor, Abdominal mass, Cystic mass, Periappendicular abscess.

Introduction

Gastrointestinal stromal tumors (GISTs) are special tumors firstly described by Clark and Mazur in 1983 [1], which may arise from mesenchymal tissue of the entire gastrointestinal tract, but most often occur in stomach (60%) [2], followed by the small bowel (25%). Jejunal GISTs account for 10% of GISTs arising from the gastrointestinal tract [3]. GIST usually presents as a solid mass, those present as cystic focus have been rarely reported, and they were often misdiagnosed with diverticulum, abscess derived from mesenteric or tumor, the adjacent organs' lesion such as pancreatic pseudocyst, and so all [4,5,6] Here, we report a large cyst lesion in the proximal jejunum mimicked as periappendicular abscess which turned out to be a GIST.

Case report

A 45-year-old female was admitted to our hospital emergency department with increasing abdominal distension associated with intermittent, dull pain in the right lower abdomen for more than a year and aggravating abdominal pain for ten days. Physical examination revealed a large mass with peritoneal irritation in the right lower abdomen. Total white cell count was 14.24×10^9 /L with the percentage of neutrophils was 86.3%. Tumor markers including CEA, AFP, CA-19.9, CA-125 investigations were within the normal range. A CT of the abdomen revealed a cystic lesion with fluid and gas inside, measuring 10.3 x 8.5 x 8.4 cm, located in the right inferior abdomen (Figure1). The upper part of the cystic mass cannot be separated from the adjacent small bowel and its wall was shown thick and enhanced in the CT scan. A presumptive diagnosis of acute episode of chronic appendicitis with periappendicular abscess was made. The patient was then operated on. During the operation, a large cystic mass, measuring 11 x 8 x 8 cm, containing about 500 ml serous fluid, was found arising from the anti-mesenteric border of the jejunum which was about 10 cm away from the duodenojejunal junction,

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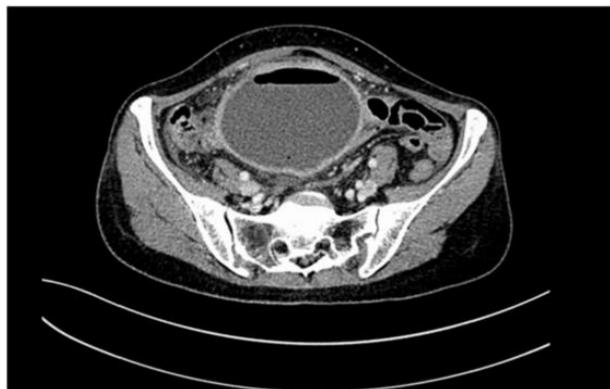


Figure 1: A cystic lesion with fluid and gas inside, measuring 10.3cm x 8.5cm x 8.4 cm, with its wall thick and enhanced, was showed in the computed tomography scan.

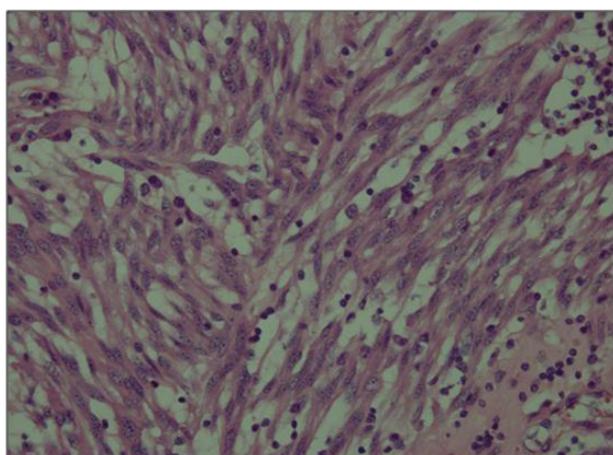


Figure 2A: Pathological analysis demonstrated a spindle cell gastrointestinal stromal tumor (hematoxylin and eosin; magnification, x400).

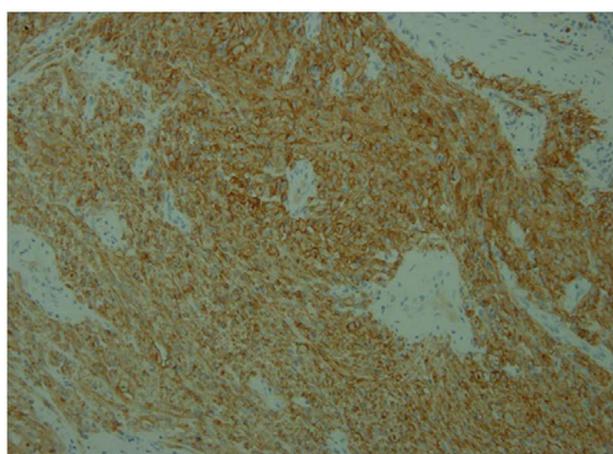


Figure 2B: Immunohistochemical analysis revealed that the tumor cells were positive for CD117 (magnification, x200).

and appendix was normal. The mass, along with the adjacent jejunal segment were excised. Histopathological examination and immunohistochemical staining of the resected specimen revealed a spindle cell neoplasm (Figure 2A), the mitotic count

was $< 5/50$ high power field and the tumor cells were positive for c-Kit (CD117) (Figure 2B) and DOG1, whereas they were negative for CD34, desmin, and S-100. Thus, the final diagnosis of a jejunal GIST was made. The postoperative course was uneventful, she declined further treatment after hospital discharge for financial reasons. The latest CT scan performed at 19 months follow-up did not show any evidence of recurrence.

Discussion

GIST can occur anywhere in or near the entire gastrointestinal tract [2], which often present as abdominal distension, lower abdominal pain, GI bleeding and abdominal mass. It often exhibits non-specific in laboratory test and features clinically varies with the size and location of tumors [7], thus it is difficult to diagnose GIST preoperatively. In our case, the patient presented with abdominal distension with pain, and peritoneal irritation in the right lower abdomen. Her total white cell counts and the proportion of neutrophils were increase, indicated infection, but tumor markers and other indexes were within the normal range. The lesion presented as a giant cyst filled with fluid and gas in the CT scan which unlike the usual presentation of GISTs, so we ignored the possibility of tumor and considered appendicitis with periappendicular abscess. As to an appendiceal inflammatory mass, nonoperative management is probably the more common option, especially after it became possible to percutaneously drain an accompanying intraabdominal abscess [8]. But one of disadvantages of nonoperative treatment is that the real pathology remains unclear. In the case, we could not assure that there were not any malignancies so we final chose surgery. If we conducted percutaneous puncture drainage, it may generate serious complications such as the tumor spread.

Complete surgical resection is the most effective treatment for GISTs and has a major impact on the prognosis of patients and recurrence [9]. In the current report, the mass excised along with resection of the involved jejunal segment were performed to ensure the complete excision. Risk assessment of recurrence, which provides the basis for selecting patients who may benefit from adjuvant therapy after tumor resection, is of importance in localized GISTs. A few risk stratification schemes such as National Institute of Health (NIH) consensus criterion and the Armed Forces Institute of Pathology (AFIP) criterion are available for operable GIST [10, 11]. Integrated the advantages of these two criteria (tumor size, mitosis, and location were considered) along with the additional factor of rupture, the modified NIH classification suggested

by Joensuu has been widely used in risk assessment for GISTs [12-14]. Based on several clinical trials, a 3-year adjuvant therapy with imatinib had been recommended by guidelines for high risk primary GIST postoperatively [13-15]. Based on the size of the lesion ($> 10\text{cm}$), the mitosis count ($< 5/50$), and non-gastric origin (jejunum), the GIST in our case was classified as high risk according to the modified NIH classification [12], but she declined for financial reasons. Though without imatinib after tumor removal, the latest CT scan of 19-month follow-up did not show tumor relapse in this patient.

In conclusion, patients with GISTs often exhibit non-specific clinically, thus a high index of suspicion of GIST should be kept in mind for a large cystic abdominal mass to avoid giving wrong treatment because of incorrect diagnosis.

Disclosure of potential conflicts of interest

Funding

None

Conflict of Interest

The authors declare that they have no conflict of interest.

Ethical approval

This study was approved by the ethics committee of Sichuan University West China Hospital, and all procedures performed in this study involving human participants were in accordance with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Patient records/information was anonymized and de-identified prior to submission.

Informed consent

Informed consent was obtained from the patient in this study.

Disclosure

We have no commercial interest in the subject of the study and have no conflicts of interest to declare

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