A Rare Cause of Gastrointestinal Bleeding: Jejuneal Gastrointestinal Stromal Tumour

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Abstract

Gastrointestinal stromal tumors (GISTs) are the most common mesenchymal tumors of the gastrointestinal tract but are rarely malignant tumors of the digestive tract, accounting for 0.1% to 3.0% of all gastrointestinal neoplasms. They commonly arise from the stomach (40%-70%) and small intestine (20%-40%); other rare intestinal sites are the colon and rectum (5%-15%), and oesophagus (<5%). They can also rarely involve extraintestinal sites including the omentum, retroperitoneum, and mesentery (extra-intestinal GISTS). As a result of immunohistochemical and electronmicroscopical studies, GISTs are thought to be arisen from the pacemaker cells of intestine known as Cajal cells. They are sometimes accompanied by symptoms, however in most cases are detected by chance. Complete resection is the primary treatment in the management of localized GISTs. Half of the patients have disease relapse in the first five years of surgery, and 5-year actuarial survival rate after surgery was reported as 54%. In the present case, a 70-year-old female patient presented to our emergency department with dizziness and blood in the stool. The patient was discharged in good overall condition.

Keywords: Gastrointestinal stromal tumor; Hemorrhage from gastrointestinal tract

Introduction

Gastrointestinal stromal tumors (GISTs) are the most common mesenchymal tumors of the gastrointestinal tract but are rarely malignant tumors of the digestive tract, accounting for 0.1% to 3.0% of all gastrointestinal neoplasms [1]. The malignant potential of GIST is variable ranging from small lesions with a benign behavior to fatal sarcomas. They commonly arise from the stomach (40%-70%) and small intestine (20%-40%); other rare intestinal sites are the colon and rectum (5%-15%), and oesophagus (<5%). They can also rarely involve extraintestinal sites including the omentum, retroperitoneum, and mesentery (extra-intestinal GISTS) [2]. As a result of immune histochemical and electronmicroscopical studies, GISTs are thought to be arisen from the pacemaker cells of intestine known as Cajal cells. They are sometimes accompanied by symptoms, however in most cases are detected by chance. Gastrointestinal stromal tumors (GISTs) are rare tumors that may arise from any site of the GI tract and are generally associated with abdominal pain, GI bleeding, or a palpable mass. However, a small intestinal GIST rarely causes hemorrhagic shock. We here in report a case of hemorrhagic shock with excessive bleeding caused by anjejuneal GIST that was managed by emergency surgery. The patient provided written informed consent for the publication of this case report. Complete resection is the primary treatment in the management of localized GISTS. Half of the patients have disease relapse in the first five years of surgery and 5-year actuarial survival rate after surgery was reported as 54% [3].

In the present case, a 70-year-old female patient presented to our emergency department with dizziness and blood in the stool. The patient was discharged in good overall condition.

Case Presentation

A 70-year-old female patient presented to the Department of Emergency of the Bagcilar Research and Training Hospital with dizziness and blood in the stool. The patient's medical history included treatment for hypertension by a local physician. The findings of the subsequent physical examination were unremarkable, except for low blood pressure (100/60 mmHg) and mild pallor of the conjunctiva. Laboratory data revealed severe anemia (hemoglobin, 7.3 g/dl), INR:
1.33, WBC: 8200/mm³, PLT: 276000/mm³. Upper endoscopy revealed no hemorrhagic lesion of the duodenum, stomach, or esophagus. Colonoscopy revealed fresh blood with clotting discharged from the proximal side of the ileocecal valve; hemorrhagic areas were identified at the colon or rectum. In the scintigraphical study, there was no hemorrhagic focus.

The abdominal computed tomography (CT) revealed the 59 x 37 mm exophytic mass in the small intestine. The intestinal bleeding continued, and the patient eventually developed hemorrhagic shock. Hence, 2 units of red blood cells and 1 units of fresh-frozen plasma were administered. Emergency partial resection of the jejunum tumor which was 100 cm distal to the ligament of Treitz was performed. There were no signs of lymphadenopathy, peritoneal dissemination, or liver metastasis. The excised tumor (59 x 37 mm) exhibited ulcerative mucosal changes. Sectioning of the tumor revealed a solid and grayish white tissue. Histological examination of the excised tumor revealed proliferation of spindle-shaped cells in the submucosa to the subserosa of the ileum and a ruptured intratumoral artery at the tumor surface (Figure 1). Immunohistochemical staining of the tumor was positive for CD34, KIT, and α-smooth muscle actin, but negative for S-100 protein. The MIB-1 labeling index using Ki-67 was 1.0–5.0%. The tumor size and the immunohistological findings supported the diagnosis of a low-risk GIST of the jejunum. The patient had an uneventful recovery, was discharged on postoperative day 7.

This case demonstrated the efficacy of the diagnosis of small intestinal bleeding, and immediate emergency surgery should be considered for cases of small intestinal GISTs with excessive bleeding.

Discussion

The clinical presentation of GISTs is variable and the most frequent symptoms are abdominal pain, GI bleeding, or a palpable mass. GISTs arise in any site, including the stomach, duodenum, small intestine, colon and rectum. However, with respect to small intestinal GISTs, abdominal pain (35.5%) is the most frequent symptom, while hemorrhagic shock (6.4%) is relatively rare. Owing to limited information about the natural course and malignant potential of GISTs less than 2 cm in size and the difficulty in targeting and completely resecting such tumors, regular follow-ups rather than resection have been recommended [4]. Clinical symptoms and ailments related to the presence of a tumor largely depend on its location and growth direction. Tumors with an outward pattern of growth develop unnoticed, which is why they are not discovered in the early stages. In this case, the patient developed hemorrhagic shock; thus, upper endoscopy, colonoscopy, scintigraphy and abdominal CT were performed to investigate the source of the hemorrhage. The abdominal computed tomography (CT) revealed the 59 x 37 mm exophytic mass in the small intestine. The most common clinical indications of GISTs include obscure bleeding, abdominal pain, and anemia. The first-line treatment of small intestinal GISTs with excessive bleeding remains debatable. In the case, the CT located the level of the bleeding and guided resection. In the present case, we performed emergency partial resection of the jejunum, including the GIST.

In conclusion, identify the source of bleeding in the small intestine is more essential before the symptoms begin. Moreover, immediate emergency surgery should be considered for cases of small intestinal GISTs with excessive bleeding.

Acknowledgement

Present case was presented in 10th National Trauma and Emergency Congress, Antalya 2015, (poster presentation).

References