

CASE NOTE

Massive gastrointestinal bleeding caused by stromal tumour of the jejunum

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Gastrointestinal stromal tumours (GISTs) are rare and specific tumours of the gastrointestinal system that originate from Cajal cells located in different sites of the digestive tract.¹ They may originate from the omentum and peritoneum, but are commonly located in the stomach and small bowel. These tumours are frequently small, asymptomatic and found incidentally; they may be benign or cancerous tumours. Frightening symptoms such as massive lower gastrointestinal bleeding or acute abdominal pain are unusual. Small lesions are usually asymptomatic. In the last 3 decades, these tumours have been classified into various types such as leiomyomas, leiomyosarcomas and leiomyoblastomas, as a subgroup of smooth muscle-cell tumours. Some electron microscopic studies showed that GISTs have different characteristics.² Generally, these tumours can be detected incidentally during other surgical procedures, on computed tomography (CT) scans or during routine endoscopic examinations.¹ Massive lower gastrointestinal bleeding is a rare and unusual symptom of GISTs, especially in young patients.²

CASE REPORT

A 25-year-old man was admitted to our hospital's emergency department with anemia and massive hematochezia. Colonoscopic and gastroscopic evaluations were normal and could not reveal the origin of the bleeding. We obtained a superior mesenteric angiography scan under emergency conditions; it showed a solid mass, 5 × 5 cm in size, located at the left iliac fossa, adjacent to jejunal segments, with active extravascularisation. We detected perfusion from jejunal mesenteric arteries (Fig. 1). Unfortunately, the patient was not suitable for angiographic selective embolization because he had a wide-range vascular supplementation and because of the risk of possible jejunal necrosis. After the overall examination, we diagnosed the tumour as a possible GIST. During the preoperative period, the patient received 7 units of blood transfusions and was scheduled for emergency surgery. After laparotomy and exploration, we found a 7-cm tumour about 150 cm from the Treitz ligament (Fig. 2). We performed a partial jejunal resection and end-to-end anastomosis. There were no postoperative complications in the early postoperative period. We started oral feeding on the second postoperative day with a liquid diet. The patient was discharged home on the sixth postoperative day.

Pathological examination of the specimen revealed a GIST originating from the jejunal wall that was composed of fusiform cells. It was 6 cm in size. We detected no ulcerations on the mucosal area. The mitosis index was 1 in 50 higher fields, and the Ki-67 value was under 1%. On immunohistochemical examination, CD117 and smooth muscle actin was diffusely positive, S100 was focal positive, and desmin and CD34 were negative. Proximal and distal surgical margins were clear and the 6 lymph nodes that were harvested from the mesenteric area were reactive and nonspecific. We deemed the tumour to be a moderate differentiated GIST originating from the jejunum.

DISCUSSION

GISTs are a group of rare tumours of the digestive tract that constitute about 1% of all gastrointestinal cancers.¹ The incidence of these tumours is about 1–2/100 000, and 20%–30% of them are malignant. They are rare before the age of 40.² In most series, patients are between the ages of 55 and 65 years, and most of them are men. In about 60%–70% of patients, the tumour is localized in the stomach, whereas in 20%–30% it has been seen in the small intestines, 5% in the colon and 5% in the esophagus. However, tumours located in the omentum and mesenterium are also reported in the literature.^{2,3}

Tumours that show malignant behaviour are those that

are larger than 5 cm. Mostly they show a mitotic activity of 5 or less in 50 higher fields. The tumours that express 5–50 mitotic activity in 50 higher fields are malignant, and tumours that show mitotic activity greater than 50 are higher-grade malignant.² Poor prognostic characteristics associated with GISTs are tumour size larger than 5 cm, necrosis, aneuploid tumoral cells, higher Ki-67 score and peritoneal dissemination of the tumour after the operation.^{3,4} In our patient, the mitotic activity was 1% but the size of the tumour was 6 cm. We removed the tumour completely with its whole capsule. We did not expect the tumour to relapse, but we scheduled physical, biochemical and radiologic follow-up every 3 months for the first year, every 6 months for the second year and afterwards once a year until the fifth year because, in malign GISTs, the peritoneal and liver metastases are frequent whereas bone and lung metastases occur rarely.

Symptoms of the GIST change according the location of the tumour; GISTs are usually asymptomatic and can be found incidentally during irrelevant abdominal surgery such as gynecologic procedures, hepatobiliary surgery and other interventional techniques such as CT or routine endoscopic examination.¹ When a symptomatic GIST is localized in the gastrointestinal tract, the most common symptoms are occasionally caused by the mechanical effect of the tumour.⁵ The primary symptom of our patient was massive bleeding due to possible hypervascularisation of the underlying sub-mucosal area of the jejunum, which is very atypical. Massive bleeding is a rare symptom of GISTs.

About 20% of GISTs are malignant; meanwhile tumours discovered in the esophagus and colon are usually malignant.^{2,6} Incidental small GISTs are usually benign, and total excision of the tumour is possible even when there is adjacent organ invasion. Some kinds of GIST have benign histological features, but their clinical presentation may be aggressive and hostile (e.g., massive bleeding). Under these circumstances, rapid decision for early surgical intervention may be the only life-saving method for the patient. Under elective conditions, alternative ways of treatment (e.g., radiotherapy, chemotherapy with imatinib) can be the complementary methods for the therapy,⁷ but none of these complementary therapies can be an alternative of the surgical treatment in case of serious life-threatening bleeding. Gastroscopy and colonoscopy can sometimes help to detect the source of massive bleeding. If these diagnostic methods fail, this should not be regarded as a complete defeat because knowing from where patient is not bleeding is as important as knowing the source of bleeding to estimate other possible sources.

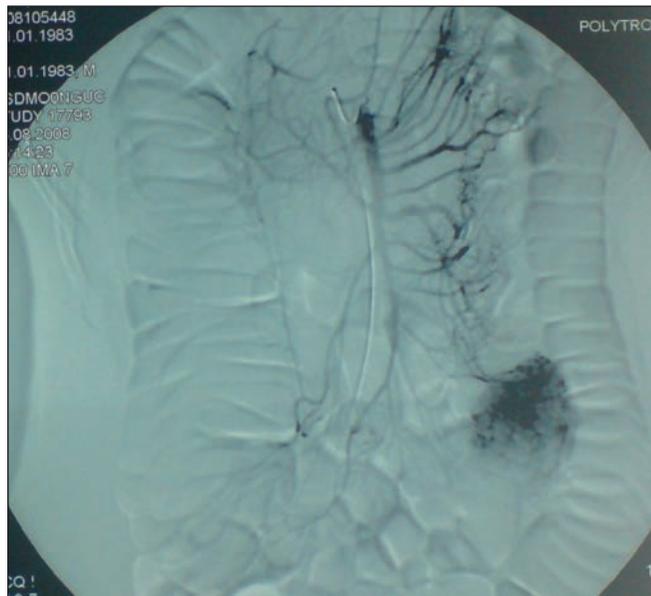


Fig. 1. Superior mesenteric angiography showing a perfusion from jejunal mesenteric arteries.



Fig. 2. We found a 7-cm tumour located about 150 cm from the Treitz ligament.

References

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