

Case Report

Hemorrhagic Shock Due to Spontaneous Mesenteric Hematoma Caused by Breakdown of the Accessory Right Colic Vein : A Case Report

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ABSTRACT

A spontaneous mesenteric hematoma is a rare condition caused by localized bleeding in the mesenteric vascular tree of the bowel ; the mechanism is unknown. Although more than 100 cases of mesenteric hemorrhage have been reported, the definitive cause has not been clarified. We report a case of hemorrhagic shock due to spontaneous mesenteric hematoma caused by breakdown of the accessory right colic vein. The patient was a 51-year-old man with no significant medical history who presented to the emergency room complaining of the sudden onset of right subcostal pain. Contrast-enhanced computed tomographic examination showed a well-defined cystic lesion 50 mm in diameter with extravasation from the right colic mesentery. Another examination 2 hours later revealed a gradual decline of blood pressure and the decrease of hemoglobin from 13.2 to 9.6 g/dl. Suspecting hemorrhagic shock due to a spontaneous mesenteric hematoma, we planned laparotomy for diagnosis and treatment. The mesenteric hematoma, which was composed of blood at the right colic mesenteric lesion resulting from bleeding from a breakdown of the accessory right colic vein, was resected, and the vein was ligated. The postoperative course was uneventful. We report a rare case of a spontaneous mesenteric hemorrhage, caused by a breakdown of the accessory right colic vein, which was successfully treated with laparotomy. (Jikeikai Med J 2018 ; 65 : 13-6)

Key words : spontaneous mesenteric hematoma, hemorrhagic shock, accessory right colic vein, laparotomy

BACKGROUND

A mesenteric hematoma is usually associated with trauma¹, a connective tissue disorder², coagulopathies³, pancreatitis⁴, malignancy⁵, or arteriopathy⁶. A spontaneous mesenteric hematoma is a rare condition caused by localized bleeding in the mesenteric vascular tree of the bowel, and its mechanism is unknown⁷. The first case was reported in 1909 and was in a 32-year-old woman who had intra-abdominal hematoma after labor caused by the bleeding from the pelvic vein⁸. Although more than 100 mesenteric hem-

orrhages have been reported⁹, the definitive cause is unclear¹⁰. We report a case of hemorrhagic shock due to spontaneous mesenteric hematoma caused by breakdown of the accessory right colic vein.

CASE PRESENTATION

A 51-year-old man with no significant medical history presented to our emergency room with a complaint of a sudden onset of right subcostal pain radiating to both shoulders. He had had intermittent, short-lasting right-sided ab-

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dominal pain for the previous 3 days. He took no medications and had no family history of bleeding diatheses. He had no history of trauma, surgery, or any condition thought to be related to mesenteric hematoma. The patient was pale and had a blood pressure was 113/46 mm Hg. Physical examination revealed tenderness of the subcostal abdomen without Blumberg's sign. The pain was intermittently dull and severe and progressively worsened over time. Hematologic examination revealed a hemoglobin concentration of 13.2 g/dl, a white blood cell count of $8.7 \times 1,000/\mu\text{l}$, a platelet count of $220 \times 10^3/\mu\text{l}$, and a C-reactive protein concentration of 0.01 mg/dl. Arterial blood gas examination indi-

cated a lactate level of 3.4 mmol/l and a pH of 7.33. A contrast-enhanced computed tomographic (CT) examination revealed a well-defined cystic lesion 50 mm in diameter with extravasation from the right colic mesentery (Fig. 1) and inflammation of the right mesentery with fluid collection around the liver. By 2 hours after the patient's arrival, blood pressure had decreased to 62/38 mm Hg, the hemoglobin concentration had decreased to 9.6 g/dl, and lactate in arterial blood gas analysis had increased to 4.7 mmol/l. Because hemorrhagic shock due to a spontaneous mesenteric hematoma was suspected, we planned laparotomy for diagnosis and treatment.

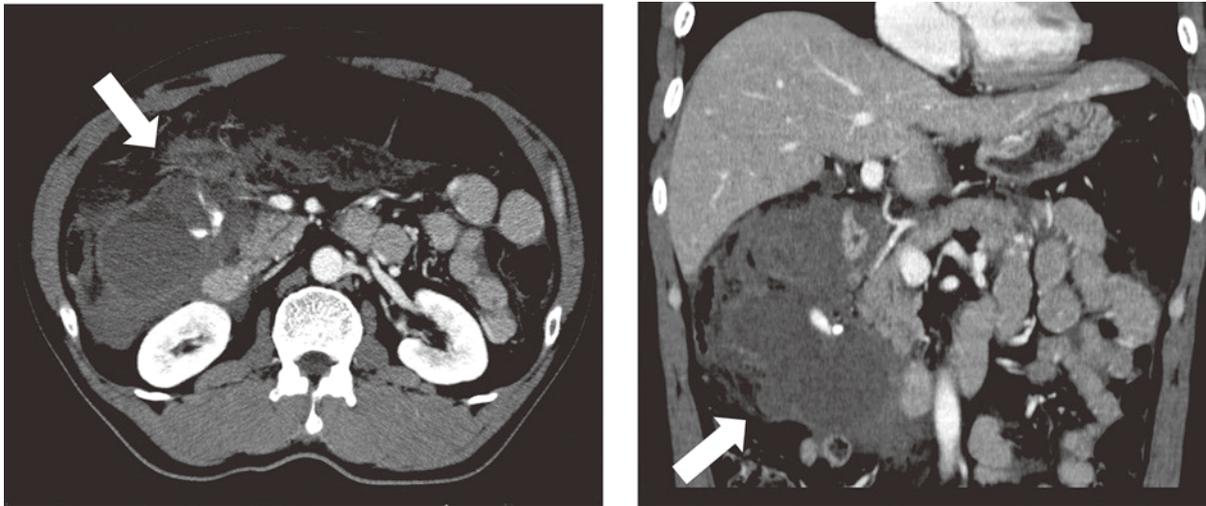


Fig. 1-A. Contrast-enhanced abdominal computed tomography (CT) indicated a low density mass with extravasation.

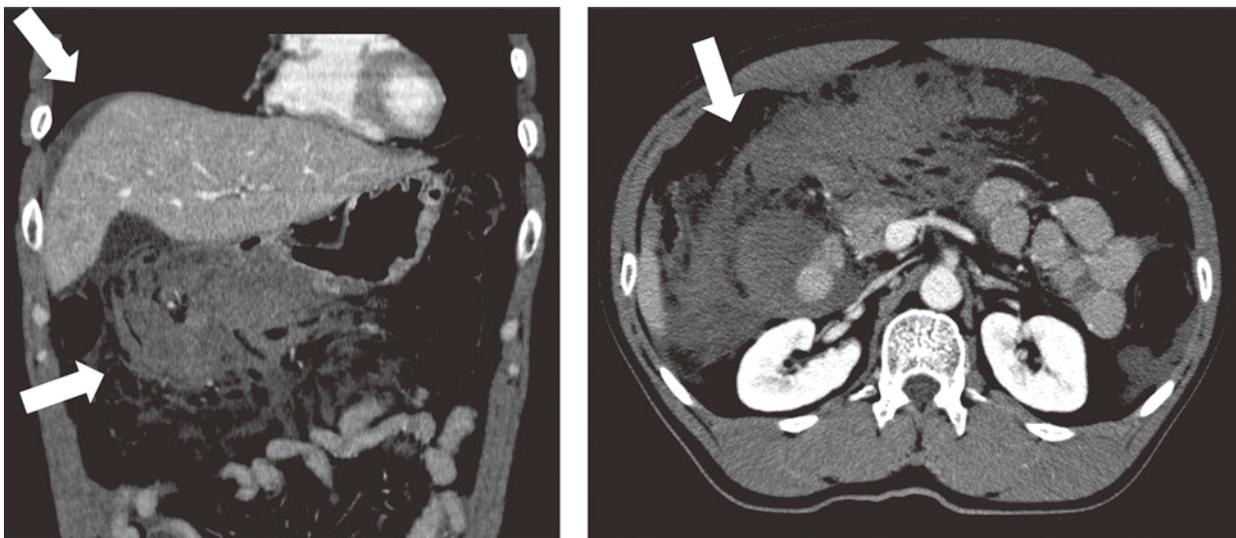


Fig. 1-B. Contrast-enhanced abdominal computed tomography (CT) revealed inflammation of right mesenteric region with fluid collection around the liver.

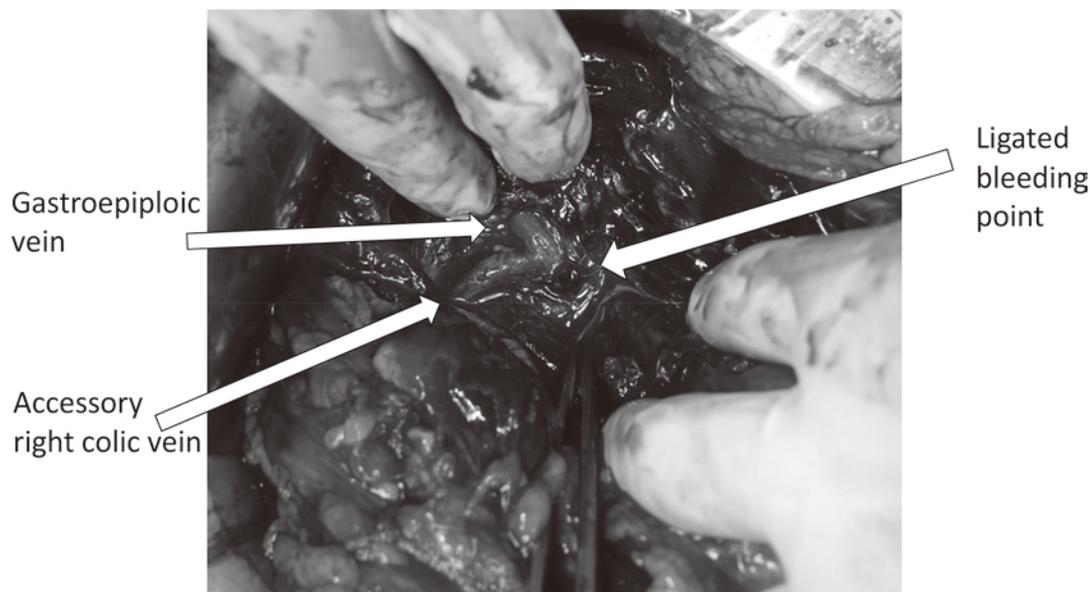


Fig. 2. Laparotomy revealed the bleeding from a breakdown of the accessory right colic vein, which was ligated.

Intraoperative examination revealed diffuse intra-abdominal bleeding in the abdominal cavity and a cystic mass composed of blood in the right colic mesenteric region due to bleeding from the breakdown of the accessory right colic vein. The mesenteric hematoma was resected, and the accessory right colic vein was ligated (Fig. 2). The postoperative course was uneventful.

DISCUSSION

Spontaneous mesenteric hematoma is a rare condition caused by localized bleeding in the mesenteric vascular tree of a bowel segment. Patients with mesenteric hematoma have various symptoms, such as abdominal pain, vomiting, and hemorrhagic shock. A hematoma should be distinguished from related conditions with mesenteric ischemia or intraperitoneal hemorrhage¹¹. The hematoma is usually diagnosed with CT, ultrasonography, or magnetic resonance imaging. If the patient's vital signs are stable and a mesenteric hematoma is suggested by CT, selective visceral angiography is recommended. When the bleeding arteries are identified, embolization can be the initial treatment, if possible⁷. If the vital signs are unstable, emergency laparotomy should be performed.

Forty-one cases of spontaneous mesenteric hematoma have been reported in Japan since 1983 (Table 1). Thirty-six of these cases reported from 1983 through 2013 were

Table 1. Forty-one cases of spontaneous mesenteric hematoma reported from 1985 through 2016

Sex	M : F	28 : 13
Age, years		25-76 (mean, 56.7)
Location	Ascending colon	7
	Transverse colon	10
	Descending colon	2
	Sigmoid colon	7
	Small intestine	1
	Root of mesentery	1
	Duodenum	3
	Jejunum	5
	Ileum	1
	Unknown	4
Treatment	Resection	36
	Conservative therapy	1
	Hemostasis	2
	Unknown	2

reviewed by Suzuki et al.¹², and 5 cases¹³⁻¹⁷ were reported from 2013 through 2016. The patients had a mean age of 56.7 years (range, 25-76 years) and were most often men older than 40 years. The mesenteric hematoma occurred in regions supplied by the superior mesenteric artery (28 cases, 68.2%) or the inferior mesenteric artery (9 cases, 22.0%) or in other areas (4 cases, 36.6%).

To treat most cases of spontaneous mesenteric hematoma previously reported in Japan, laparotomy was per-

formed. Only 1 case was treated with conservative management alone. As the main origin of spontaneous mesenteric bleeding, rupture of the aneurysm or pseudo-aneurysm at the peripheral branch of the mesenteric artery caused by an external force was most probable. However, in no previously reported case has the cause of spontaneous mesenteric hematoma been proven with pathological examination¹¹. Interestingly, of the 41 previously reported cases of mesenteric hematoma, in none could the source of bleeding from the mesenteric vein be detected. According to 2 reports, the bleeding vessel remained unidentified during exploration in approximately 40% of cases^{9,18}. Because the source of bleeding is difficult to identify, bleeding or inflammation spreads diffusely throughout the mesenteric region, and the hematoma itself might compress the point of bleeding. On the basis of these previous reports, breakdown of the accessory right colic vein is a rare condition serving as the bleeding point of mesenteric hematoma. To our knowledge, the present case is the first to be reported of spontaneous mesenteric hemorrhage caused by bleeding from the accessory right colic vein.

CONCLUSION

We have reported a rare case of hemorrhagic shock, due to mesenteric bleeding caused by breakdown of the accessory right colic vein, which was successfully treated with laparotomy.

CONFLICT OF INTEREST

The authors have no conflict of interest.

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