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Case Report

Spontaneous mesenteric hematoma after antiplatelet therapy: a case report

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ABSTRACT

Spontaneous mesenteric hematoma (SMH) is one of the rare conditions with abdominal mass secondary to hemorrhage. It develops due to regional bleeding in the mesenteric vessel of a gastrointestinal tract. The unusual morphology and lack of apparent etiology of SMH make it difficult to diagnose. A 57-year-old woman was referred to our hospital for intermittent abdominal pain with nausea and vomiting. She was receiving antiplatelet therapy by aspirin from idiopathic thrombocytosis. The number of platelet was above the normal level. CT showed a tumor-like lesion with arterial extravasation in the left lower abdomen. Mesenteric hematoma was considered since the mass was located between two branches of inferior sigmoid artery (IMA). Emergency laparotomy was performed and a mesenteric hematoma adjacent to the sigmoid colon was identified. The mesenteric hematoma was resected with the regional sigmoid colon. Pathology report showed intact mucous membrane of the excision without tumors or aneurysm. SMH was finally confirmed. The patient returned to her daily life without complaining of any symptoms. When a patient on antiplatelet therapy complained of acute abdominal pain, SMH has to be taken into consideration. Abdominopelvic CT scan is an effective investigation for diagnosis, and conservative therapy or emergent exploratory laparotomy could be an optional treatment. To the best of our research in Medline, there have only seven cases of colorectal SMH. Authors reportrd a rare case of SMH located at sigmoid colon, which appeared after antiplatelet therapy.

Keywords: Antiplatelet, Aspirin, Sigmoid colon, Spontaneous mesenteric hematoma

INTRODUCTION

Spontaneous mesenteric hematoma (SMH) is a rare condition of hemorrhage in the digestive system, which develops secondary to regional bleeding in the mesenteric vessels of a gastrointestinal tract.[1-3] It was first described by Barber et al in 1909 as a symptom associated with labor.[4] The patient complained of abdominal pain two days after the labor of the child with clinical signs of mesenteric hemorrhage. Laparotomy was performed and mesenteric vessels were considered to be the source of bleeding. SMH is a rare condition, and the predilection sites of SMH are reported to be at the small intestine.[5-8] Patients suffering from SMH usually present acute abdominal pain and vomiting.

The reported etiologies are associated with connective tissue disorders, coagulopathies, pancreatitis, vascular disease, etc.[5,7,9-11] Here, we present a rare case of SMH in the sigmoid colon secondary to antiplatelet therapy.

CASE REPORT

A 57-year-old housewife came up with intermittent abdominal pain with nausea and vomiting when she was cooking. She had no history of constipation and melaena. The patient was taking aspirin (Aspirin, Bayer, Osaka, Japan, 100mg daily) for idiopathic thrombocytopenia. The pain aggravated gradually and one day later, she visited a local clinic. Abdominal examination showed generalized abdominal distension and rigidity with tenderness of the left lower abdomen. Shifting dullness was present and bowel sounds were sluggish. Abdominopelvic CT showed a tumor-like lesion with extravasation of the contrast in the left lower abdomen, the high density mass was located between the two branches of IMA with a sign of compressing the sigmoid colon. Signs of ischemic bowel and ascites were also observed (Figure 1). She was transferred to our hospital for further examination and treatment.

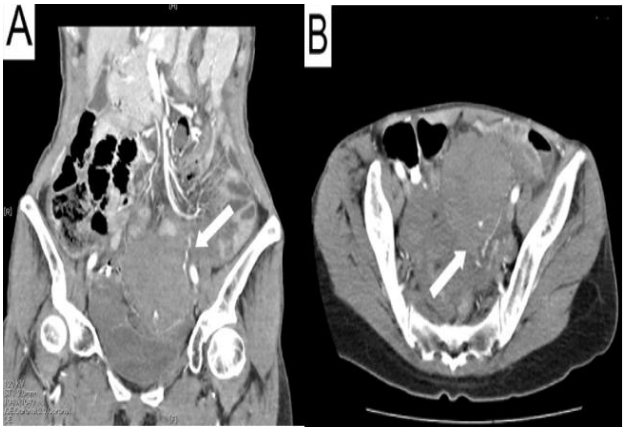

Figure 1: Abdominal computed tomography image of the mesenteric hematoma. A high density lesion with arterial extravasation was indicated in the left lower abdomen (arrow), hematoma was located between the branches of IMA with a sign of compressing the sigmoid colon; (A) (coronal view) and (B) (transverse view).

The patient's left lower quadrant pain became severe when she was arriving at our hospital. Initial complete bloods count showed anemia with a hemoglobin (Hb) level of 11.0 g/dL, white blood cells of $11.6\times10^3/\mu L$, together with a high platelet count of $692\times10^3/\mu L$. The Hb dropped to 9.0g/dL in three hours. Emergent exploratory laparotomy was performed with a suspicion of mesenteric hematoma.

At laparotomy, moderate amount of hemorrhagic ascites was found at intraperitoneal space, and a mesenteric hematoma adjacent to the sigmoid colon was identified (Figure 2A). Partial resection of the sigmoid colon was performed, accompanied with removal of the mesenteric hematoma (Figure 2B). The color of excision site was dark red and hematoma was located in the serosal side. In pathology report, the integrity of mucous membranes was complete, a part of muscularis propria was destroyed and some hemorrhage was seen at submucosa. Aneurysm was not observed (Figure 3). Tumor was not found, and perforated colonic diverticulum was also denied. Postoperative course was uneventful and she was discharged on post operation day 9.

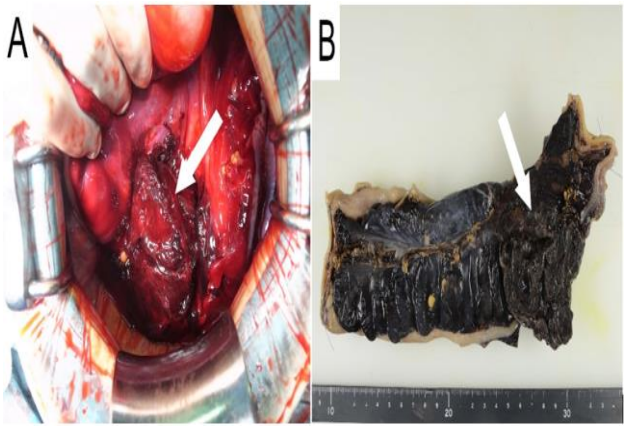

Figure 2: The intraoperative and postoperative aspect of the mesenteric hematoma. Moderate amount of hemorrhagic ascites with mesenteric hematoma was seen in laparotomy and the sigmoid serosa was ruptured, white arrow indicated the hematoma (Figure 2A). Transverse section of the partially resected sigmoid, white arrow indicated the mesenteric hematoma (Figure 2B).

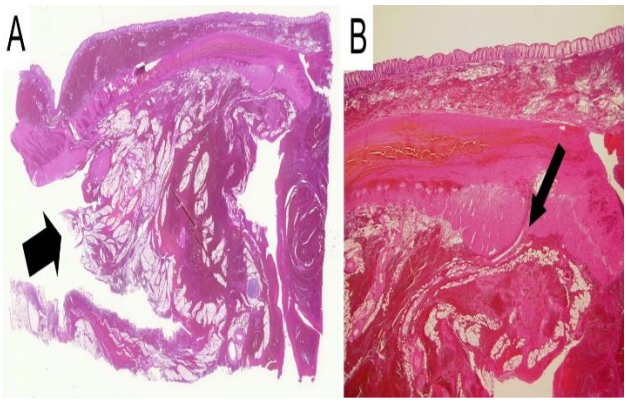

Figure 3: Pathology report of the spontaneous mesenteric hematoma. H&E staining indicating the mucous membranes was intact, some part of muscularis propria was destroyed and significant hemorrhage (black arrow) was seen at submucosa. Original magnifications A and panel on upper right in B, x12.5.

DISCUSSION

SMH is a rare condition characterized by regional bleeding in the mesenteric vessels, which needs a high level of suspicion for diagnosis. Clinical signs vary widely according to the location and the amount of

bleeding.[10] When bleeding from small vessels, hematomas usually resolve spontaneously and the patients can be treated conservatively. In cases of bleeding from large vessels, hematomas may be palpable and there are usually signs with severe abdominal pain, anemia and hemorrhagic shock.[12] Appropriate surgical treatment should be performed immediately after urgent laboratory or radiological investigation. CT usually provides useful methods for identifying SMH by eliminating other common causes such as abdominal aneurysm, malignancy and acute pancreatitis, etc.[2] In present case, ovarian tumor could be possible because of a tumor-like lesion in the left lower abdomen by abdominal CT scan. However, two branches of inferior sigmoid artery (IMA) encircled the mass, which indicated a higher possibility of hematoma within the mesentery of the sigmoid colon. The intact mucous membrane revealed by pathology ruled out the reasons of abdominal aneurysm, malignancy and diverticulum, being consistent with the diagnosis of SMH.

Table 1: Review of spontaneous mesenteric hematoma.

Author	Year	Age	Gender	Location	Possible etiology	Treatment
Iwata	1985	64	M	Sigmoid colon	Unknown	Resection
Sugano	1986	47	F	Ascending colon	Unknown	Resection
Aoki	1990	47	M	Sigmoid colon	Coumarin	Resection
Ashley	1990	75	F	Small intestine	Unknown	Resection
Weinstock	1999	57	M	Jejunum	Coumarin	Resection
Brito	2006	77	M	Jejunum	Coumarin	Resection
Gomez	2006	53	M	Duodenum	Unknown	Resection
Gomez	2006	62	M	Duodenum	Unknown	Resection
Hosaka	2006	38	M	Jejunum	EDS	Resection
Hosaka	2006	42	M	Descending colon	EDS	Resection
Hosaka	2006	33	M	Jejunum	EDS	Resection
Parker	2012	54	M	Duodenum	Unknown	Conservative management
Ono	2013	64	M	Duodenum	Unknown	Resection
Rana	2013	65	M	Ileum	Asprin	Resection
Ashrafian	2014	44	F	Jejunum	Unknown	Resection
Peña	2014	71	M	Colon	Coumarin	Conservative management
Shikata	2016	75	M	Small intestine	Unknown	Resection
Suciu	2016	46	M	Jejunum	Coumarin	Resection
Traoré	2016	32	M	Colon	Unknown	Resection
Liang	2017	57	F	Sigmoid colon	Asprin	Resection

EDS, Ehlers-Danlos syndromes

Our case demonstrates the presence of localized SMH. The patient had a long history of antiplatelet treatment by aspirin for idiopathic thrombocytosis. Although she did not have a history of trauma, the possibility of inadvertent trauma couldn't be eliminated. To the best of our knowledge, 20 cases of SMH have been reported in Medline (Table 1).[1-3,5-11,13-18] The majority of patients are male (16/20), and the most cases are found in the small intestine (13/20). Hemorrhage usually occurs in the small bowels, while SMH in the sigmoid colon, is rare.[5] Iwata et al, reported the first case of SMH in the sigmoid colon, but the patient was not on antiplatelet therapy, and the etiology was not clear.[1] Most patients suffering from SMH were over 50 years old of age, being consisted with the listed cases (12/20).[9]

Anticoagulation treatments such as heparin and coumarin derivatives are occasionally seen in SMHs (5/20). On the other hand, patients with antiplatelet therapy were rare (2/20). The following factors have been reported to increase the risk in patients receiving aspirin: dose of aspirin, increasing age, genetic factors affecting antithrombotic effect, prior stroke, history of bleeding, anemia, comorbidities (hypertension, renal insufficiency, liver disease, etc.), and the use of concomitant medication, etc.[19] Previous research showed that after being treated with antiplatelet therapy, patients aged 75 years or older had more severe bleeding than those aged younger than 75 years.[20]

The patient in present case was 57 years of age. Considering the age and usage of aspirin therapy in our patient, the etiological relationship between SMH and aspirin cannot be clearly established. However, since low-dose aspirin is routinely used as a primary prophylaxis of cardiovascular disease, demand for the use of antiplatelet therapy is increasing in the recent decades with aging of population in our country.[21] It is necessary to be aware that antiplatelet treatment can be a risk of SMH.

Ehlers-Danlos syndromes (EDS) are a group of genetic connective tissue disorders. Mutation in COL3A1 gene is found in vascular type of EDS, which caused the defective production of type Ⅲ collagen and result in prominent hyperelasticity and fragility of the artery. Hosaka et al, reported 3 cased of SMH associated with EDS.[7] The arterial rupture appeared in the distensible artery of the patient, one case of the hematoma was located in the descending colon. Clinical signs are invisible in patients with EDS unless catastrophic arterial hemorrhage and hematoma occurs. In our case, the patient showed no signs of hyperelastica in the skin or other tissues, the possibility of EDS could be eliminated. However, it is better not to ignore the gene-related etiology of SMH.

CONCLUSION

In conclusion, with the increasing usage of antiplatelet therapy, it is still imperative for surgeons to take SMH into consideration when elderly patients with antiplatelet therapy complain acute abdominal pain. Here we describe a case of SMH occurred in an aged female patient with antiplatelet therapy. It is necessary to select emergent exploratory laparotomy on the proper occasions to avoid hypovolemic shock, intestinal obstruction, or further severe abdominal complications.

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