Warfarin Woes: A Rare Case of Hemoperitoneum with Intramural Small Bowel Hematoma

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Patient: Female, 67-year-old
Final Diagnosis: Intramural small intestinal hematoma
Symptoms: Abdominal pain
Clinical Procedure: —
Specialty: Radiology

Objective: Rare disease
Background: Small bowel hematoma is a rare yet clinically significant condition characterized by the accumulation of blood within the mucosa and submucosa layers of the small intestine wall. It can lead to complications such as bowel obstruction, ischemia, perforation, and even hemorrhagic shock. The etiology of intramural small bowel hematoma is diverse, encompassing factors such as anticoagulant therapy, coagulopathies, vascular disorders, trauma, and underlying systemic conditions.

Case Report: We present the case of a 67-year-old man with a history of aortic valve replacement who presented with intense abdominal pain. Physical examination revealed generalized abdominal tenderness and black stools upon rectal examination. Laboratory tests indicated coagulopathy with a prolonged thrombin time. A computed tomography scan confirmed the presence of an intramural small bowel hematoma and hemoperitoneum. The patient’s condition significantly improved within 48 h under conservative management, including nasogastic tube insertion, continuous monitoring of gastric aspirate, nil per os status, intravenous fluids, and analgesics. Warfarin was temporarily stopped, and fresh frozen plasma was administered for anticoagulation reversal. Heparin infusion was initiated once the INR became within the therapeutic level.

Conclusions: The occurrence of spontaneous intramural small bowel hematoma, although rare, demands rapid diagnosis and prompt, well-coordinated management. This case underscores the pivotal role of multidisciplinary collaboration in providing a comprehensive assessment and a tailored approach to treatment. While conservative measures, including careful monitoring and supportive care, have demonstrated favorable outcomes, the consideration of surgical intervention remains crucial, particularly in severe cases.

Keywords: Anticoagulants • Case Reports • Hematoma • Hemoperitoneum • Intestines • Warfarin

Full-text PDF: https://www.amjcaserep.com/abstract/index/idArt/943519
Background

Small bowel hematoma is a rare but significant clinical condition characterized by the accumulation of blood within the mucosa and submucosa layers of the wall of the small intestine [1]. It can potentially lead to bowel obstruction, ischemia, perforation, and hemorrhagic shock [2]. The etiology of intramural small bowel hematoma can be diverse, ranging from anticoagulant therapy and coagulopathies to vascular disorders, trauma, and underlying systemic conditions [3]. We present the case of a 67-year-old man with a history of mechanical valve replacement surgery who developed a spontaneous intramural small bowel hematoma due to coagulopathy induced by warfarin therapy. This report highlights the challenges in the diagnosis and management of this condition, balancing the risk of hemorrhage and thrombosis. It underscores the importance of multidisciplinary collaboration to ensure timely intervention, including conservative and surgical management, and optimal patient outcomes.

Case Report

A 67-year-old man presented to the emergency department with severe abdominal pain and progressive abdominal distention over the past 3 days. The pain was diffuse and had gradually intensified. He also reported passing black stools. There was no recent trauma, and the patient denied any bleeding tendencies such as easy bruising or bleeding gums.

In terms of medical history, he had hypertension managed with amlodipine 5 mg, dyslipidemia managed with rosuvastatin 20 mg, and ischemic heart disease. He previously underwent coronary artery bypass grafting surgery 15 years ago, during which the left internal mammary artery was used to graft the left anterior descending artery, and saphenous vein grafts were used to graft the obtuse marginal artery. Additionally, the patient had severe aortic stenosis and an ascending aortic aneurysm, for which he received treatment with a mechanical valve replacement (St Jude Medical Regent valve) and ascending aorta repair using a Hemashield Platinum Tube graft. The patient has been taking warfarin at a daily dose of 6.5 mg for the last 15 years due to the mechanical valve and was actively managed at another cardiac center with regular follow-ups.

During the physical examination, the patient appeared distressed and remained still in bed. His vital signs were as follows: blood pressure of 140/71 mmHg, heart rate of 110 beats per minute, respiratory rate of 18 breaths per minute, and oxygen saturation of 98% on room air. The abdominal examination revealed widespread tenderness with guarding and rebound tenderness. Bowel sounds were diminished. Rectal examination revealed the presence of black stools.

Initial laboratory results showed a white blood cell count of 13.59×10^9/L (reference range: 4.5-11.0×10^9/L), hemoglobin of 10.8 g/dL (reference range: 13.5-17.5 g/dL), urea of 16.5 mmol/L (reference range: 2.5-7.1 mmol/L), creatinine of 181.0 µmol/L (reference range: 53-106 µmol/L), and an International Normalized Ratio (INR) of 6.6 (reference range: 0.8-1.2). No recent INR readings from our hospital records were available to determine the patient’s previous anticoagulation status. An electrocardiogram showed sinus tachycardia without signs of ischemia.

To further assess the source of bleeding, upper gastrointestinal endoscopy and colonoscopy were performed, both of which showed no abnormalities. The general surgery team suggested a contrast-enhanced computed tomography scan of the abdomen to rule out intestinal obstruction or bowel ischemia. Despite concerns about contrast-induced nephropathy due to elevated urea and creatinine levels, the patient agreed to proceed with the contrast-enhanced computed tomography scan after extensive discussions.

After administering intravenous normal saline for hydration to minimize the risk of renal complications, a contrast-enhanced computed tomography scan of the abdomen and pelvis was performed. It revealed mildly dilated small bowel loops predominantly in the distal jejunal and ileal loops with a thickened wall that appeared hyperdense. The large bowel loops seemed relatively normal. Additionally, a significant amount of free fluid was observed in the upper abdomen, with an average density of 40 Hounsfield units. No signs of bowel perforation or obstruction were found. These findings indicated an intramural small bowel hematoma associated with hemoperitoneum (Figure 1). The possibility of intestinal ischemia was raised; however, the mesenteric vessels were patent with no evidence of thrombosis, and there were no indications of pneumatosis intestinalis or portal vein gas.

Considering the patient’s ongoing anticoagulation therapy, a multidisciplinary approach was taken to assess and manage the patient. Given the patient’s high-risk status for surgical intervention due to underlying medical comorbidities and the absence of signs of hemodynamic instability, ongoing bleeding, bowel perforation, or persistent bowel obstruction, conservative management was opted for. A nasogastric tube was inserted for decompression, and continuous monitoring of gastric aspirate was initiated to detect any ongoing bleeding. The patient was put on nil per os (NPO) status to allow the bowel to rest, and intravenous fluids and appropriate analgesics were administered for effective hydration and pain management. Warfarin was temporarily stopped on the first day of admission and fresh frozen plasma was given to reverse the anticoagulant effect. Heparin infusion was initiated at 22,000 units/24 h once the INR became within the therapeutic level.
After 8 days, warfarin was reintroduced with careful monitoring of the coagulation profile. Vital signs, including blood pressure and heart rate, were closely monitored to identify any signs of hemodynamic instability that might indicate ongoing bleeding.

Over the next 48 h, the patient’s abdominal pain gradually improved, and the abdominal distention subsided. Subsequent laboratory tests showed stable hemoglobin levels of 11.1 g/dL and a coagulation profile with an INR of 2.2. The patient was able to tolerate a liquid diet without complications. A follow-up CT scan conducted 1 week later showed partial resolution of the free fluid and intramural hematoma (Figure 2), supporting the decision to continue with close observation and conservative care.

The patient was discharged after 13 days of hospitalization with complete resolution of symptoms. During the discharge planning, regular follow-up appointments at the cardiac center were scheduled to optimize anticoagulation therapy and for subsequent cardiac follow-ups. The multidisciplinary team ensured that the patient received appropriate post-discharge instructions, including close monitoring of anticoagulant therapy and ongoing communication with the cardiology team to ensure coordinated care.

**Discussion**

Intramural small bowel hematoma is a rare but potentially serious condition that can lead to bowel obstruction, ischemia,
perforation, and hemorrhagic shock [2]. The etiology of small bowel hematoma can vary, and it is important to identify the underlying cause to guide appropriate management [3]. In this case, the patient developed a spontaneous intramural small bowel hematoma due to coagulopathy induced by warfarin therapy. This highlights the importance of considering medication-induced coagulopathy as a potential cause in patients presenting with acute abdominal pain and a history of anticoagulant therapy.

Warfarin is a commonly used anticoagulant for the prevention and treatment of thromboembolic events. However, it carries a risk of bleeding complications. The incidence of small bowel hematoma associated with warfarin therapy is relatively low, but it can be a potentially life-threatening complication [4]. The clinical presentation of small bowel hematoma can vary and is often nonspecific, making diagnosis challenging. Patients typically present with abdominal pain, distention, and signs of bowel obstruction [3, 5]. Black stools, as seen in this case, can be an alarming sign of gastrointestinal bleeding. However, it is important to note that the presence of black stools does not always indicate an upper gastrointestinal bleed, as in this case where the bleeding originated from the small bowel. Therefore, a high index of suspicion is required, particularly in patients with risk factors for small bowel hematoma.

Imaging plays a crucial role in the diagnosis of small bowel hematoma. CT scan of the abdomen and pelvis is the preferred modality, as it can accurately detect the presence of intramural hematoma, identify any associated complications such as bowel obstruction or perforation, and guide appropriate management [3,5]. In this case, the CT scan revealed a thickened small bowel wall with hyperdensity, indicative of an intramural small bowel hematoma.

The management of small bowel hematoma depends on the clinical presentation, hemodynamic stability, and underlying etiology. In this case, a conservative approach was chosen due to the patient’s stable condition and lack of evidence of ongoing bleeding or bowel perforation. Conservative management includes bowel rest, nasogastric decompression, intravenous fluid resuscitation, pain management, and temporary discontinuation of anticoagulant therapy. Reversal of anticoagulation with fresh frozen plasma was performed to minimize the risk of bleeding. Close monitoring of vital signs and laboratory parameters is essential to detect any signs of ongoing bleeding or hemodynamic instability [6].

Surgical intervention is reserved for patients with hemodynamic instability, evidence of ongoing bleeding, bowel perforation, or persistent bowel obstruction. However, surgical management of small bowel hematoma remains controversial and should be considered on a case-by-case basis [6,7].

Multidisciplinary collaboration is crucial in the management of small bowel hematoma, especially in cases involving anticoagulant therapy. In this case, the involvement of the general surgery team, cardiology team, and radiology team allowed for a comprehensive assessment and tailored management approach. The collaboration ensured that the patient received appropriate interventions, including temporary discontinuation of anticoagulant therapy, reversal of anticoagulation, and close monitoring for potential complications.
Conclusions

Spontaneous intramural small bowel hematoma is a rare but clinically significant condition that requires prompt diagnosis and appropriate management. The multidisciplinary approach involving the general surgery, cardiology, and radiology teams played a vital role in the successful management of the patient. Conservative management, including temporary discontinuation of anticoagulation, close monitoring, and supportive care, yielded positive outcomes in this case. However, surgical intervention should be considered in cases with hemodynamic instability, ongoing bleeding, or bowel perforation. This case emphasizes the importance of the need for multidisciplinary collaboration to ensure optimal patient outcomes in small bowel hematoma.

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References: