

A Rare Complication: Spontaneous Intramural Hematoma Rupture Associated with Anticoagulant Therapy: Two Case Reports

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1. Introduction

Intestinal intramural hematomas are among the rare complications of the gastrointestinal system. Their occurrence is particularly increased in patients undergoing anticoagulant therapy and those who have experienced trauma. These hematomas are typically located within the submucosal layer of the intestinal wall and may present clinically with severe abdominal pain, nausea, vomiting, and, in some cases, intestinal obstruction. The rupture of intestinal intramural hematomas is reported infrequently in the literature. The most common and serious complication of anticoagulation therapy is bleeding. Approximately 10-17% of patients using vitamin K antagonists experience at least one bleeding event annually. Spontaneous intramural hematomas represent a rare condition that can lead to life-threatening massive bleeding. This condition is characterized by the accumulation of blood between the submucosa and muscular layers, potentially resulting in partial or complete intestinal obstruction. It has been documented that these types of hematomas can occur in nearly every segment of the gastrointestinal tract, from the esophagus to the sigmoid colon. This study focuses on two case presentations involving the spontaneous rupture of hematomas located within the intestinal wall.

2. Case 1

A 60-year-old male patient presented to our emergency department with sudden onset of severe abdominal pain. His medical history included epilepsy, hypertension, left nephrectomy, and cholecystectomy. He had been receiving warfarin therapy for deep vein thrombosis prophylaxis for approximately two months. Physical examination revealed stable vital signs, but signs of peritoneal irritation were present in all quadrants of the abdomen. Ultrasound

and CT imaging showed widespread free hemorrhage and edema in certain intestinal segments. The patient's INR level was measured at 16. After administering vitamin K and 2 units of prothrombin complex concentrate, the patient was taken to surgery under emergency conditions. Approximately 800 cc of free hemorrhage was observed in the abdomen, along with a 30 cm segment of jejunum located 50 cm distal to the Treitz ligament, which exhibited intramural hematoma, ischemic necrosis, and hemorrhage in the mesentery.

The ischemic intestinal segment was resected from the demarcation line, and end-to-end anastomosis was performed. The patient was discharged without complications after postoperative follow-up. Histopathological examination revealed intestinal ischemia and submucosal hemorrhage.

3. Case 2

A 56-year-old female patient had a history of coumadin use for approximately 10 years due to mitral valve replacement. She presented to the emergency department with sudden onset of widespread abdominal pain. Physical examination revealed diffuse abdominal pain with signs of defense and rebound tenderness. Laboratory tests indicated a hemoglobin level of 7.2 g/dl and an INR of 3.48. Radiological evaluation via abdominal CT revealed widespread intra-abdominal hemorrhage and irregular soft tissue density areas, suspected to be a hematoma measuring 7.5 x 6 cm between intestinal segments. After thorough assessment, acute abdomen was suspected, and the patient underwent laparotomy. During the procedure, approximately 1 liter of free hemorrhage was found, along with an 8 x 6 cm intestinal intramural hematoma and ischemic necrosis in a 40 cm segment of the jejunum located 70 cm distal

to the Treitz ligament. The segment containing the hematoma was resected at the demarcation lines, and anastomosis was performed after segmental resection of the small intestine. The patient was discharged without complications after postoperative follow-up. Histopathological evaluation confirmed jejunal intramural hematoma.

4. Discussion

The first report of intramural intestinal hematoma was identified by McLouchlan in 1838 during an autopsy, although it was classified as an aneurysm. The first radiological description occurred over a century later when Liverud reported a case involving the jejunum. The frequency of intramural intestinal hematoma has been estimated to occur in about 1 in 2500 patients. The most commonly affected area is the jejunum (70%), followed by the ileum and duodenum. These hematomas develop due to bleeding from the terminal artery originating from the mesentery, leading to blood accumulation in the muscular layers of the intestinal wall. Typically, patients present with abdominal pain, which may be accompanied by symptoms such as nausea and vomiting. Computed tomography (CT) plays a critical role in the diagnosis of intestinal intramural hematomas. Typical CT findings include thickening of the bowel wall, narrowing of the lumen, high-density areas, and signs of obstruction. Findings such as thickening of the small bowel wall and intramural air bubbles increase the need for surgical intervention in the presence of clinical symptoms of peritonitis and mechanical bowel obstruction. Patients without complete obstruction or ischemic findings due to intestinal intramural hematoma can often be managed conservatively. Conservative treatment should include the administration of fresh frozen plasma and vitamin K to support the coagulation cascade. Close monitoring of INR and prothrombin time values is essential. However, due to the risk of hypercoagulability in these patients, aggressive anticoagulant therapy should be avoided. If the hematoma resolves, anticoagulant therapy may be resumed with careful monitoring of INR. In cases of ileus, intra-abdominal hemorrhage, or ischemic findings, urgent surgical intervention is often necessary. In our two cases, ischemic necrosis and widespread abdominal bleeding were identified, leading to segmental resection of the small intestine and anastomosis for intestinal continuity. Both patients were discharged in good condition postoperatively. INR levels were monitored and low molecular weight heparin was initiated early, followed by oral anticoagulant therapy.

5. Conclusion

In patients presenting to the emergency department with severe abdominal pain and a history of anticoagulant use, particularly in the presence of ileus, intra-abdominal bleeding, and ischemic findings, intestinal intramural hematoma and hematoma rupture

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