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Case Report

Spontaneous intramural small-bowel hematoma due to a rare complication of warfarin therapy: Report of two cases

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Abstract

Spontaneous intramural small-bowel hematoma secondary to warfarin therapy has been reported in the literature, but this complication of anticoagulant therapy is still considered rare. Here we report two cases of spontaneous nontraumatic jejunal intramural hematoma treated in our institution. After emergent admission for acute abdomen, both cases were found to have a history of warfarin therapy for atrial fibrillation. Prothrombin time, activated partial thromboplastin time, and international normalized ratio were elevated in both cases. For Case 1, abdominal computed tomography revealed segmental mural thickening with precontrast hyperdensity and perienteric haziness affecting the distal jejunum. The patient underwent emergent laparotomy under the impression of mesentery occlusion with impending bowel ischemia due to her history of atrial fibrillation. Abdominal computed tomography for Case 2 revealed jejunal intramural hematoma and bloody ascites. The patient received conservative therapy with nil by mouth, fresh frozen plasma transfusion, and vitamin K1 supplementation, and no surgical intervention was done based on experience gained with the first case. Although a few other recent cases have been reported, the differences in our two cases were especially helpful in demonstrating that surgery can be avoided. We suggest that a history of anticoagulant use with prolonged international normalized ratio values in patients presenting with abdominal pain should alert physicians to consider spontaneous intramural small-bowel hematoma secondary to warfarin therapy. Recognizing this syndrome is important in order to avoid unnecessary surgery because excellent outcomes can be achieved with conservative treatment.

Keywords: Acute abdomen; Intramural hematoma; Small bowel; Warfarin

1. Introduction

Although intramural small-bowel hematoma is a known complication of blunt trauma, it is a lesser known rare complication of excessive anticoagulant therapy, reported to occur in only one case/2500 anticoagulated patients/year.[1] The most common complication of anticoagulant therapy is, of course, bleeding, which can manifest as hematuria, gastrointestinal bleeding, epistaxis, soft tissue hematoma, and more serious events such as cerebral hemorrhage.[2] Although the incidence is rare, warfarin-induced nontraumatic intramural hemorrhage of the small bowel can cause intestinal ischemia, obstruction, and ileus. Spontaneous small-bowel hematoma typically involves the jejunum, which may be followed by involvement of the ileum and duodenum. Elevated prothrombin time (PT) and activated partial thromboplastin time (APTT) as well as prolonged international normalized ratios are characteristic signs. Diagnosis can usually be confirmed with abdominal computed tomography (CT), which may reveal circumferential wall thickening, intramural hyperdensity, luminal narrowing, and small bowel obstruction in some cases.[3] Early diagnosis is critical in order to avoid unnecessary surgery because conservative management has been shown to resolve the condition.[4] Unfortunately, the condition is not always included in the differential diagnosis of patients admitted for emergent evaluation of acute abdomen. Besides

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the intensity and duration of warfarin therapy and a history of atrial fibrillation, other risk factors for intramural small-bowel hematoma include chemotherapy, hemophilia, vasculitis, idiopathic thrombocytopenia purpura, leukemia, lymphoma, myeloma, pancreatitis, and pancreatic cancer.[3]

Several individual cases and case series of warfarin-induced intramural small-bowel hematoma have been reported in the past decade,[4–9] but, due to the rarity of the condition, only case studies have been published and long-term comparative or observational studies of intramural hematoma in anticoagulated patients are not found. Two cases of warfarin overdose were reported by Altinkaya et al,[9] and both were treated by immediately discontinuing warfarin therapy followed by conservative management (vitamin K and fresh frozen plasma) until mural thickening and ascites were completely resolved. Another three cases were reported recently by Samie et al,[4] and all were complications of phenprocoumon/warfarin therapy, which is being used extensively for therapeutic and prophylactic purposes these days. These authors predict that the incidence of spontaneous small-bowel hematoma will increase along with increased long-term anticoagulation therapy, especially in the growing elderly population.

Herein, we report two cases of spontaneous nontraumatic jejunal intramural hematoma presenting as acute abdomen, both due to this rare, and possibly increasing, complication of warfarin therapy.

2. Case reports

2.1. Case 1

An 83-year-old female had a history of previous cerebral vascular accident with right middle cerebral artery hemorrhagic infarct. She had received warfarin therapy 5 mg four times daily for 4 years for atrial fibrillation. Her coagulation profile two months prior to the emergency visit included a PT of 17.2 seconds, with international normalized ratio (INR) of 2.3. She was brought to the emergency room due to sudden onset of abdominal pain for 1 day. Bilious vomiting accompanied by left lower abdominal tenderness and rebound tenderness was found. Plain abdominal X-ray showed markedly distended small bowel loops compatible with bowel obstruction. Abdominal CT demonstrated segmental mural thickening with precontrast hyperdensity and perienteric haziness affecting the distal jejunum (Fig. 1). Blood examination revealed: white blood cells, 18.4 $\times$ 10^9/L; segmented cells, 89%; elevated INR, 24.23, PT, 61.1 seconds (normal, 9.4–12.5 seconds); and APTT, 91.2 seconds (normal, 28.6–38.6 seconds). Even though no abdominal CT evidence of bowel gangrene was detected, emergent laparotomy was arranged under the impression of mesentery occlusion with impending bowel ischemia due to her history of atrial fibrillation. At laparotomy, bloody ascites and ischemic and gangrenous changes in the jejunum 80 cm distal to the Treitz ligament were found. Segmental resection and primary anastomosis were performed. Histology of the resected jejunum revealed no thrombus in the mesentery vessels (Fig. 2). Diffuse hemorrhage and necrosis were found at the mucosa and submocosal layers (Fig. 3). The patient had an uneventful recovery and was discharged in stable condition.

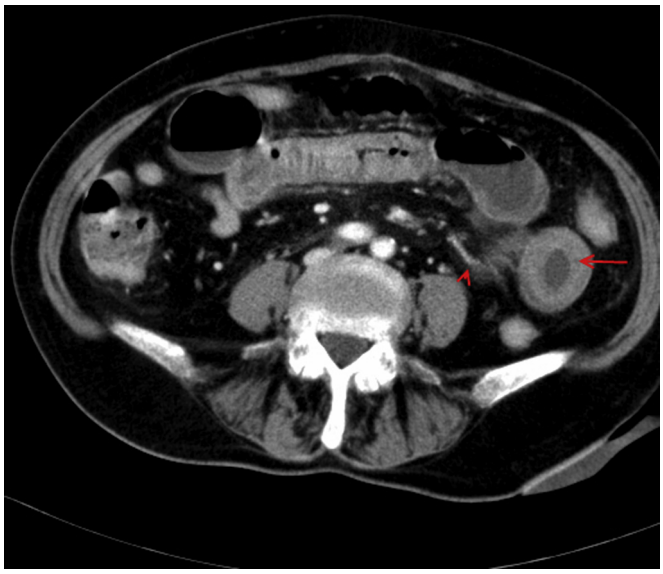

Fig. 1. Abdominal computed tomography demonstrating patency of mesentery vessels (arrowhead) and segmental intramural hematoma affecting distal jejunum (arrow).

2.2. Case 2

A 77-year-old male was admitted to the emergency room because of abdomen distension for 3 days. Abdominal pain developed on the day of admission to the emergency room. He had a history of hypertension, previous cerebrovascular accident, and atrial fibrillation. He had received warfarin 5 mg four times daily beginning 5 years ago. He had also received regular outpatient follow-up every 3 months. However, his last coagulation profile dated 3 years previously showed a PT of

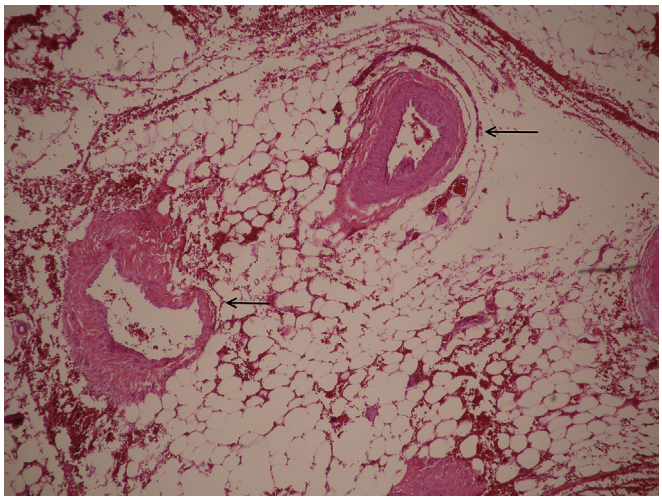

Fig. 2. Histology revealed no thrombus was found in the mesentery vessels (arrow; hematoxylin and eosin stain 40×).