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Overlooked complication of anticoagulant therapy: The intramural small bowel hematoma—A case report



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ABSTRACT

INTRODUCTION: Intramural small bowel hematoma is a rare, and often overlooked consequence of anti-coagulant therapy. In this report we present such a case in order to bring forth awareness to this entity, and its management.

PRESENTATION OF CASE: We report a 81-year old male who presented with abdominal pain for 2 days. He had been under anticoagulant therapy with warfarin for 9 years, presenting with an elevated INR of 6,2. Intramural small bowel hematoma was confirmed with abdominal ultrasound and CT scan. The patient was treated conservatively with anticoagulant suspension and administration of antidote, and was subsequently discharged after 6 days.

DISCUSSION: Abdominal complaints and an elevated INR value point to the possible diagnosis of intramural small bowel hematoma, however these abdominal symptoms can vary between a mild pain and an established acute abdomen. CT scan showing symmetric bowel thickening associated with some luminal narrowing confirms the diagnosis. In terms of management, there are not sufficient papers to support a standardized treatment; currently the most accepted approach seems to be conservative treatment after the exclusion of complications that would call for surgery.

CONCLUSION: Anticoagulant therapy is becoming a widespread prescription as the population ages, and intramural small bowel hematoma is one consequence in need of consideration

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1. Introduction

The present work has been reported in line with the SCARE criteria [1].

Anticoagulant therapy is widely used in various clinical situations. However, it brings forth serious complications. The incidence of all bleeding complications during anticoagulant therapy ranges from 5 to 48%, but gastrointestinal haemorrhage occurs in only 2–4% of patients [2].

The only incidence estimation for intramural small intestine hematoma present in the literature was made by Bettler et al. [3] in 1983, based on a retrospective epidemiological survey, and puts it at 1 case per 2500 anticoagulated patients per year.

Keeping this entity in mind is a basic requirement for its diagnosis. According to the largest case series available in the literature, the most common symptom is abdominal pain, followed by emesis [4,5]. Therefore, it is accepted that any patient with a history of use of anticoagulant therapy and prolonged International Normalized

Ratio (INR) suffering from abdominal pain should raise suspicion for intramural small bowel hematoma [6,7].

Anticoagulant-induced intramural small-bowel hematoma prevalence is expected to increase, and awareness for this entity is needed. The authors report a case of nontraumatic small intestine intramural hematoma presenting as a complication of anticoagulant therapy.

2. Presentation of case

An 81-year-old caucasian male was referred to the General Surgery Emergency Department presenting with pain in the lower quadrants of the abdomen for 2 days. The patient had been under anticoagulant therapy with warfarin 5 mg id for 9 years because of atrial fibrillation, but he had stopped it 5 days prior to admission because of an elevated INR.

He had a history of two stroke episodes, type 2 Diabetes, COPD, AHT, SOA, and he had a pacemaker. His other medications were directed to his chronic illnesses. There was no record of any genetic or hereditary conditions, or family predispositions.

The patient reported no traumatic incidents, no change in bowel habits or vomiting. He did recall red urine on occasion and a propensity to bruise easily. He presented with a high blood pressure of

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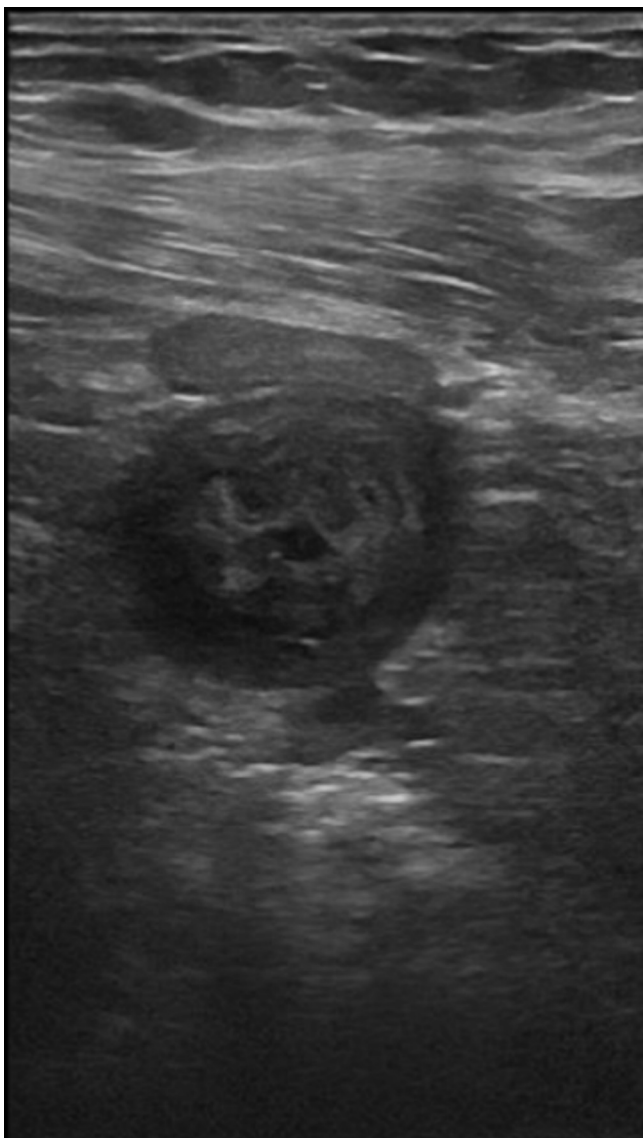


Fig. 1. Abdominal ultrasound showing the transversal view of the thickened small bowel.

177/58 mmHg. Physical examination revealed a tender abdomen over the inferior quadrants; no masses or hernias were evident.

Laboratory data revealed a haemoglobin value of 13,2 g/dL with an activated partial thromboplastin time of 83 s, a prothrombin time of 68,6 s and an INR of 6,2. Other data was unremarkable. Prothrombin complex was initiated and a normal INR was obtained (INR 1,9).

Abdominal ultrasound showed a thickened small bowel loop wall surrounded by fluid (Fig. 1). The CT scan revealed, in the hypogastrum and right iliac fossa, a small bowel loop with thickened walls and adjacent engorged vessels and fat (Figs. 2 and 3).

The patient was admitted to the General Surgery Department for conservative treatment, including nil by mouth, endovenous hydration and pain management. Patient and family showed some reluctance in trusting the proposed treatment, reconsidering when improvement in symptoms was evident.

Having had a favourable and uneventful hospital stay, he was discharged 6 days later without the need for surgery. The immunohemotherapist consulted recommending a switch in anticoagulant therapy to Rivaroxaban 20 mg id.



Fig. 2. Coronal view of the abdomen on CT showing thickened small bowel wall and engorged mesentery.



Fig. 3. Transverse view of the abdomen with arrow pointing symmetric bowel thickening, with high attenuation in its acute phase, associated with some luminal narrowing.

Follow-up at approximately 1 month revealed no symptoms and an unremarkable CT (Fig. 4). At 6 months, the patient reported no abdominal complaints.

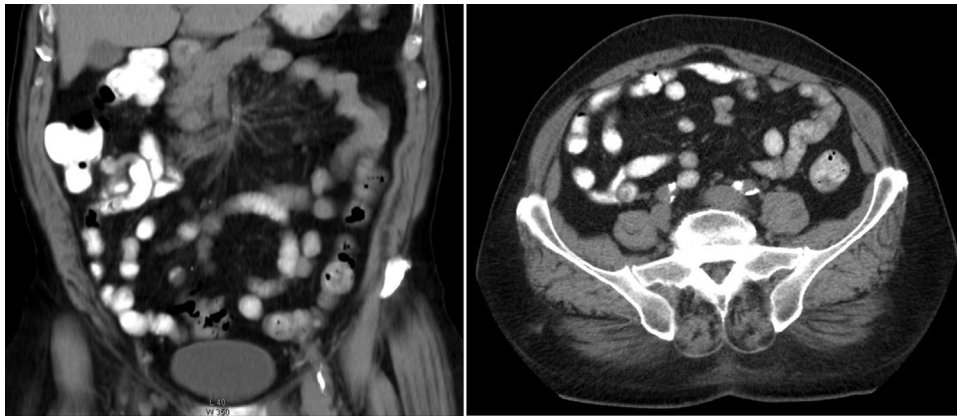


Fig. 4. Follow up images at same level with no evidence of disease.

3. Discussion

Intramural hematoma of the gastrointestinal tract has long been known as a pathological entity with various etiological factors, namely blunt abdominal trauma and haematological dyscrasias [8]. Berman and Mainella [9] seem to have been the first to describe this condition in relation to anticoagulant therapy, in 1952. In fact, the most important etiological factor appears to be iatrogenic dysfunction of haemostasis, either due to over-anticoagulation with vitamin K antagonist or due to the association of the latter with drugs inhibiting platelet function [3].

In studies regarding the complications arising from the use of anticoagulants, hypertension was identified as a possible risk factor for major bleeding [10]; our patient suffered from hypertension and had high blood pressure upon presentation.

Many have suggested a classic triad of symptoms for intramural small bowel hematoma. According to Bettler et al. [3], this would comprise abdominal pain, small bowel obstruction and multiple haemorrhagic symptoms. On the other hand, Abbas et al. [4], claim the triad to be warfarin overdose, circumferential thickening of the small intestine and intestinal obstruction. While a myriad of symptoms might occur, it is evident from the literature that abdominal pain is the symptom present in 100% of cases. In 1967, Killian and Heitzman [11] included intramural small bowel hematoma in the differential diagnosis of acute abdomen in cases when the patient is under anticoagulant therapy. More recently published papers state that it should be considered in any anticoagulated patient with abdominal complaints [6,7], which can vary from mild and vague to intestinal obstruction or an acute abdomen [12].

The INR is almost invariably above the therapeutic range; in this case, it was at 6.2. Earlier accounts estimate the TT to be prolonged in 70% of cases [3]. In fact, major haemorrhagic events have been described with PT or TT within the targeted therapeutic range [10].

Presently, the best accepted imaging method to evaluate anticoagulated patients at risk of bleeding is multidetector computed tomography (MDCT) [12,13]. The signs to look for and which enable differential diagnosis with a tumour or inflammatory bowel disease include symmetric bowel thickening, with high attenuation in its acute phase, associated with some luminal narrowing. In our patient, this was also evident. The first imaging evaluation the patient undertook was an abdominal ultrasound, due to it being innocuous and inexpensive; its findings were consistent with the literature's description of a thickened and echogenic submucosal layer [13,14]. However, the lack of specificity questions the use of ultrasound in the diagnosis of intramural small bowel hematoma.

In the past surgery seemed to be the preferred treatment, but current practise suggests a more conservative approach with immediate suspension of anticoagulant drugs and antidote

administration, along with close clinical surveillance. Other supportive measures should be instituted according to patients' needs [4,5]. However, surgical management could still be considered in cases where intestinal ischemia or perforation, peritonitis, intra-abdominal haemorrhage and refractory GI blockages persist [4,12]. In this case, there was no call for surgery as the patient did not present with any of the above-mentioned complications. Patients seem to recover within 4–6 days [12], with complete resolution within 2 months, as our case illustrates. An established follow-up period and assessment strategy is lacking. We opted for clinical and imaging evaluation at 2 months and then a consult at 6 months.

The authors believe documenting this case prompts the scientific community to take a closer look at this entity. Anticoagulant-induced intramural small bowel hematoma is repeatedly described as a rare occurrence, further supported by the fact that none of the anticoagulant trials have been able to clearly document this complication. In reality, this is probably an overlooked consequence to which we aim to improve the clinical suspicion.

Moreover, this patient had high blood pressure; which despite being a risk factor for haemorrhagic events, has yet to be described, to the best of our knowledge, in relation to intramural small bowel hematoma.

4. Conclusion

Use of anticoagulant therapy is becoming more widespread. One consequence of over-anticoagulation is the intramural small bowel hematoma. It should be considered in any patient presenting with abdominal complaints and an elevated INR value. The CT scan of the abdomen is the imaging method of choice when considering this entity. The importance of a timely diagnosis is related to the excellent prognosis associated with conservative therapy.

Conflicts of interest

There are no conflict of interest to state.

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Ethical approval

Not Applicable.

Consent

Written and signed informed consent was obtained from the patient.

Author contribution

Joana Marantes Pimenta: Patient follow-up and wrote the manuscript.

João Pimenta de Castro: Patient follow-up and reviewed the manuscript.

Raluca Saramet: Patient's surgeon and reviewed the manuscript.

Luís Gabriel Pereira: Patient follow-up and reviewed the manuscript.

Guarantor

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