



CASE REPORT

Spontaneous descending colon hematoma due to a rare complication of warfarin therapy: A case report

Negin Yavari¹  | Farzaneh Majdi Nassab² | Mohammad Amin Tajvidi² |
Shapour Shirani³ | Shahram Shirani⁴ | Seyed Hossein Ahmadi Tafti⁵ 

¹Research Department, Tehran Heart Center, Tehran University of Medical Sciences, Tehran, Iran

²School of Medicine, Tehran Medical Sciences Branch, Islamic Azad University, Tehran, Iran

³Department of Radiology, Tehran Heart Center, Tehran University of Medical Sciences, Tehran, Iran

⁴Department of General Surgery, Tehran Heart Center, Tehran University of Medical Sciences, Tehran, Iran

⁵Department of Cardiac Surgery, Tehran Heart Center, Tehran University of Medical Sciences, Tehran, Iran

Correspondence

Seyed Hossein Ahmadi Tafti, Tehran Heart Center, Kargar St. Jalal al-Ahmad Cross, zip code: 1411713138, Tehran, Iran.
Email: ahmadita@sina.tums.ac.ir

Abstract

Intramural hematoma of the colon should be considered as a diagnosis in anticoagulated patients who present with prolonged INR and GI symptoms. In stable cases, conservative medical treatment can be sufficient to avoid unnecessary procedures.

KEYWORDS

anticoagulant, descending colon, hematoma, warfarin

1 | INTRODUCTION

Intramural hematoma of gastrointestinal tract is a rare but life-threatening complication which occurs due to anticoagulant therapy. Previous studies described this phenomenon mostly in small intestine. Here, we report a 54-year-old man with nontraumatic descending colon hematoma secondary to warfarin use who was treated with medication.

Intramural hematoma of the bowel has been most commonly associated with blunt trauma. There are other risk factors including bleeding disorders, malignancies, chemotherapy, vasculitis, and collagen diseases that can present with intramural hematoma of bowel.¹ It also can present as a rare complication of anticoagulant therapy, especially warfarin.² The small intestine is the most common site affected by

spontaneous intramural hematoma and intramural hematoma of the colon is really rare. Because of the rarity of spontaneous colon hematoma, often the diagnosis is not suspected.³ Previous studies mainly reported spontaneous bowel hematoma in small intestine, and there are limited studies about hematoma in colon.^{3,4} Therefore, in this case report, we explain our clinical approach to a unique case of descending colon hematoma due to warfarin therapy which was effectively managed nonoperatively.

2 | CASE PRESENTATION

A 54-year-old man was admitted to our center with the complaints of 2 days of generalized abdominal pain with

This is an open access article under the terms of the Creative Commons Attribution-NonCommercial-NoDerivs License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.

© 2021 The Authors. *Clinical Case Reports* published by John Wiley & Sons Ltd.

nausea and vomiting with no history of trauma. The patient was determined to have past medical history of diabetes mellitus and hypertension and previous surgical history of metallic mitral valve replacement, aortic valve repair, and coronary artery bypass grafting surgery 3 years ago. Patient was awake, alert, and oriented. He had no stigmata of active bleeding. On admission, his vital signs were stable. In examination, he had generalized abdominal pain with mild distension without peritonitis. Due to suspicion of myocardial infarction, the patient underwent electrocardiogram which indicated atrial fibrillation without any ST-segment alteration. Echocardiography showed ejection fraction of 30%, moderate diastolic dysfunction, no visible para-valvular leakage, moderate-severe tricuspid regurgitation, and pulmonary arterial pressure of 35 mm Hg. Laboratory results showed a normal leukocyte count, normal hemoglobin, increased lactate dehydrogenase (370 IU/L), hyperkalemia (6.1 mEq/L), neutrophilia (90%), negative blood culture, and supratherapeutic international normalized ratio (INR) of 10.99. The patient received urgent surgical review, fluid resuscitation and INR reversal with intravenous vitamin K, and two units of fresh frozen plasma (FFP). The patient continued to take his cardiovascular and diabetic medications orally without any antibiotics. Bedside abdominal ultrasound indicated gallbladder stones and a 12-millimeter stone in lower calyx of right kidney. Further investigation was performed via spiral abdominal computed tomography (CT) of the abdomen and pelvic which showed circumferential wall thickening in descending colon suggestive of hematoma with minimal free fluid in the pelvis and the abdomen (Figure 1).

After 7 days, the repeat PT and INR were 23 seconds and 2.3, respectively, and INR was maintained between 2.5 and 3.5 in the follow-ups. The intramural hematoma was decreased in size (Figure 2). After discharge, the patient was free from the bowel symptoms and he was restarted on the warfarin therapy (5 milligram). Moreover, the patient was scheduled to undergo colonoscopy after he was recovered for preventing colorectal cancer screening.

3 | DISCUSSION

Warfarin is one of the most used anticoagulant medication after surgeries to prevent from further thrombosis formation in different organs, even though due to its narrow therapeutic window, it is not so easy to control the blood level. The duration of using this drug might differ from days to years depending on patient situation. In long-term use, INR should be maintained between 2 and 3. However, a target INR range of 2.5-3.5 is the current recommendation in patients who have undergone mechanical mitral valve replacement. Increased INR level can lead to bleeding.⁵⁻⁷ Adverse reactions can vary from scarce to severe hemorrhage, most of the time presents

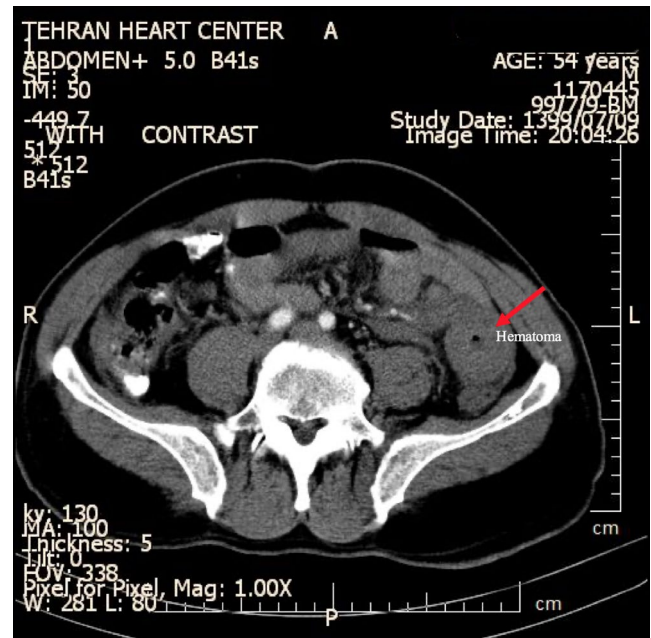


FIGURE 1 Axial abdominal CT with IV contrast: circumferential descending colon wall thickening with luminal stenosis, and no mucosal breakdown

as cerebral hemorrhage, but can also happen in the gastrointestinal tract. However, a spontaneous, intramural intestinal hematoma is uncommon. Small bowel hematomas have been reported as 1/2500 anticoagulated patients/year, but intramural colonic hematomas have been described less in the literature.^{5,8} By the aid of imaging modalities such as CT and magnetic resonance imaging, it is possible to diagnose the involved site. Intestinal hematoma may present with wall thickening and narrowing of the lumen.⁹ Colon involvement with hematoma might not be easy to diagnosis because as the patient presents with acute abdomen symptoms, it will be necessary to rule out other causes consisting traumatic and nontraumatic. Predisposing factors for spontaneous intramural hematoma include bleeding diathesis, hematological malignancies, vasculitis, chemotherapy, H. Pylori infection, colonic diverticular bleeding, angiodysplasia, or iatrogenic injuries such as endoscopic biopsy.² Moreover, in patients with the history of cardiac surgery, myocardial infarction should also be ruled out.^{3,8,10}

At first instance, making a precise diagnosis of warfarin-induced intramural hematoma before doing an invasive approach is difficult and it requires high clinical judgment to prevent unnecessary exploratory surgeries.^{3,9,11} Abdominal spiral CT shows circumferential bowel wall thickening is not specific sign of intramural hematoma, but in addition to other symptoms such as high INR and abdominal pain, the diagnosis can be confirmed. Contrast-enhanced CT scan allows detailed diagnosis, and it is essential for the definitive diagnosis. While performing colonoscopy may be useful in case of suspicion of intramural hematoma, the tissue contained in

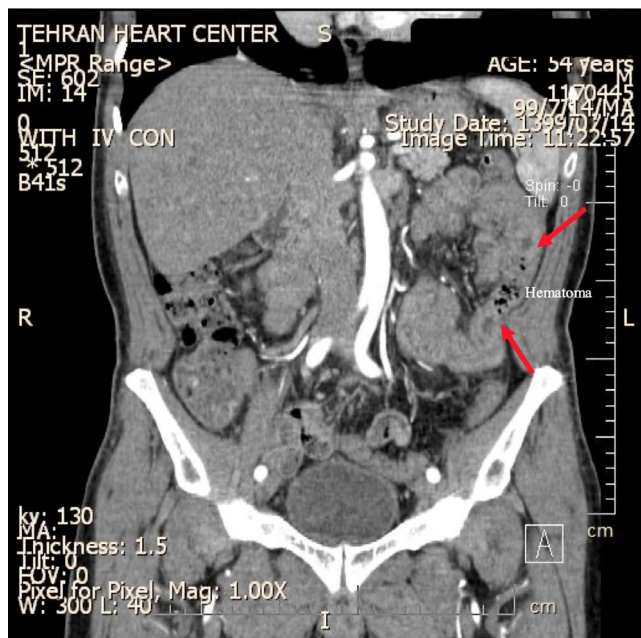


FIGURE 2 Coronal abdominal CT with IV contrast: normal diameter of descending colon wall with preserved lumen

hematoma can be fragile and further complicate the hemorrhage.¹ Therefore, in our case, because abdominal spiral CT confirmed the diagnosis, the patient did not need to undergo colonoscopy.

If the patient is stable, like in our case, a successful treatment of intramural hematoma is cessation of the anti-coagulant therapy and an attempt to correct the patient's coagulation parameters with the administration of FFP and vitamin K. Previous imaging studies demonstrate that the hematoma may take 2 months to resolve⁸ whereas, in our case, we demonstrated hematoma resorption after 7 days.

As demonstrated above, the mainstay of management is early diagnosis with appropriate resuscitation and reversal of anticoagulation. This case demonstrated that we can use conservative therapy in stable patients without any complications. Surgery still may have a role, if conservative therapy fails and the hematoma does not regress within a few weeks or the patient develops active hemorrhage, suspected ischemia, and intestinal perforation or deterioration despite medical management.⁹

4 | CONCLUSION

Despite its infrequent incidence, intramural hematoma of colon should be considered as a differential diagnosis in anticoagulated patients who present with prolonged INR value and gastrointestinal symptoms. This case demonstrates the importance of early diagnosis and the role of nonoperative management of a rare complication of warfarin and even more infrequent of its manifestation in colon to avoid

unnecessary surgeries, since the outcome is usually excellent after a conservative treatment.

ACKNOWLEDGMENTS

No acknowledgments to declare. Published with written consent of the patient.

CONFLICT OF INTEREST

The authors declare that they have no competing interests.

AUTHOR CONTRIBUTIONS


SHAT: contributed to the study conception and design. SHSH: performed material preparation. NY and FA: wrote the first draft of the manuscript. All authors read and approved the final version of the manuscript.

ETHICAL APPROVAL

The patient provided verbal consent for the publication of his case, and it was approved by the ethics committee of the Tehran Heart Center.

ORCID

Negin Yavari  <https://orcid.org/0000-0002-9914-2935>

Seyed Hossein Ahmadi Tafti  <https://orcid.org/0000-0003-1040-4941>

[org/0000-0003-1040-4941](https://orcid.org/0000-0003-1040-4941)

REFERENCES

- Vecchio R, Cacciola E, Figuera M, et al. Idiopathic intramural hematoma of the right colon. A case report and review of the literature. *Int J Surg Case Rep.* 2019;60:16-20.
- Limmer AM, Clement Z. Extensive small bowel intramural haematoma secondary to warfarin. *J Surg Case Rep.* 2017;2017(3):rjx044.
- Lobo L, Koudki R, Kishan Prasad H, Shetty B. Colon obstruction due to an anticoagulant induced intramural haematoma; a rare case report. *J Clin Diagn Res.* 2013;7(4):739.
- Thomas R, Banky B, Hobday C, Borowski DW. Colonic obstruction caused by intraluminal haematoma. *Case Rep.* 2012;2012:bcr2012006801.
- Eek AK, Strøm BO, Bakkehøi G, Stenberg-Nilsen H. Anticoagulant-associated adverse drug reactions in 2013–15. *Tidsskrift for den Norske lægeforening: tidsskrift for praktisk medicin, Ny Raekke.* 2018;138(12):12-20.
- Schwab M, Schaeffeler E. Warfarin pharmacogenetics meets clinical use. *Blood.* 2011;118(11):2938-2939.
- Witt DM, Clark NP, Kaatz S, Schnurr T, Ansell JE. Guidance for the practical management of warfarin therapy in the treatment of venous thromboembolism. *J Thromb Thrombolysis.* 2016;41(1):187-205.
- Chaiteerakij R, Treeprasertsuk S, Mahachai V, Kullavanijaya P. Anticoagulant-induced intramural intestinal hematoma: report of three cases and literature review. *J Med Assoc Thai.* 2008;91(8):1285-1290.
- Samie AA, Sun R, Huber A, Höpfner W, Theilmann L. Spontaneous intramural small-bowel hematoma secondary to anticoagulant therapy: a case series. *Medizinische Klinik-Intensivmedizin und Notfallmedizin.* 2013;108(2):144-148.

10. Lanas-Gimeno A, Lanas A. Risk of gastrointestinal bleeding during anticoagulant treatment. *Expert opin Drug Saf.* 2017;16(6):673-685.
11. Khan K, Saeed S, Alothman S, Iqbal F, Ramcharan A, Donaldson B. Warfarin induced mesenteric and intestinal hematoma requiring surgical resection to relieve small bowel obstruction: a case report. *Int J Surg Case Rep.* 2018;52:111-113.

How to cite this article: Yavari N, Majdi Nassab F, Tajvidi MA, Shirani S, Shirani S, Ahmadi Tafti SH. Spontaneous descending colon hematoma due to a rare complication of warfarin therapy: A case report. *Clin Case Rep.* 2021;9:e04252. <https://doi.org/10.1002/ccr3.4252>