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CLINICAL MEDICINE

Image Diagnosis: Inferior Mesenteric Vein Thrombosis

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CASE STUDY

A 59-year-old man presented to the gastroenterology clinic with 2 weeks of worsening lower back pain. There was associated poor appetite, fatigue, night sweats, and chills. The patient's medical history was significant for well-controlled hypertension and sigmoid diverticulosis. He had been smoking half a pack of cigarettes per day for 30 years. Physical examination was remarkable for fever (100.7°F), periumbilical tenderness, and a soft epigastric bruit. Laboratory evaluation, including complete blood count, lipase, liver and renal function, electrolytes, and lactate, were within normal limits. Ultrasound of the abdomen with venous duplex was performed to evaluate the epigastric bruit. The ultrasound revealed a nonocclusive thrombus in the splenic vein (Figure 1).

A computed tomography (CT) scan with intravenous contrast confirmed a thrombus in the inferior mesenteric vein (IMV) (Figure 2) extending to the confluence of the IMV with the splenic vein (Figure 3). Inflammatory changes around the sigmoid colon with a hyperdense diverticulum were also noted on CT scan (Figure 4), suggestive of diverticulitis. No evidence of intestinal obstruction or infarction was seen on imaging, which indicated only partial vein occlusion and/or early IMV thrombosis. The thrombosis probably resulted from inflammation in the adjacent diverticulum. The patient was given ciprofloxacin and metronidazole for 10 days and was started on warfarin therapy, initially bridged with heparin.

A CT scan of the patient's abdomen was performed 15 weeks after his initial visit and treatment. The CT scan

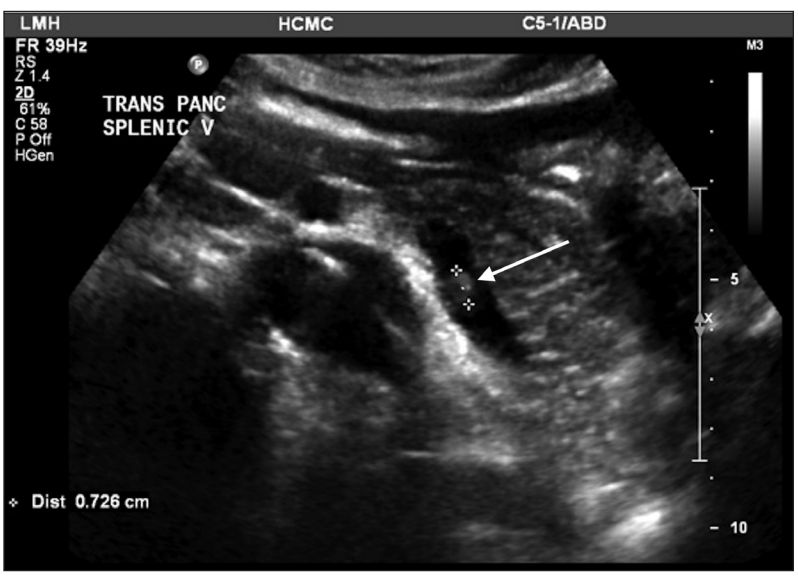

Figure 1. Ultrasound of the abdomen with the white arrow indicating a nonocclusive thrombus in the splenic vein. The distance between the crosshairs is 0.726 cm.

Figure 2. Coronal view computed tomography scan of the abdomen, with the white arrows indicating the thrombus in the inferior mesenteric vein.

Figure 3. Axial view computed tomography scan of the abdomen, with the white arrow indicating the inferior mesenteric vein thrombus extending up to its confluence with the splenic vein.

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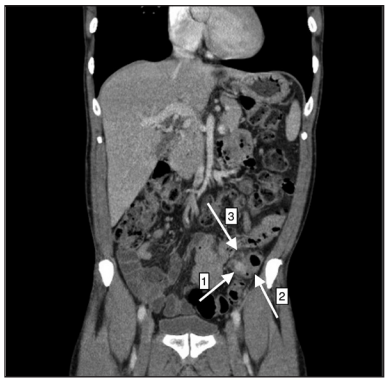

Figure 4. Coronal view computed tomography scan of the abdomen. Arrow 1 indicates a hyperdense diverticulum, arrow 2 indicates edema of the sigmoid colon wall, and arrow 3 indicates pericolonic fat stranding.

Figure 5. Coronal view computed tomography scan of the abdomen 15 weeks after initial treatment. The white arrow indicates a smaller inferior mesenteric vein, compared with the time of diagnosis, without thrombus or collaterals.

showed a smaller IMV without any collateral vein formation, indicating resolution of the thrombus (Figure 5). At 30 weeks, ultrasound of the patient's abdomen showed a patent splenic vein with normal flow (Figure 6). The patient had a comprehensive workup for thrombophilia, which was unremarkable. Warfarin therapy was stopped after resolution of the thrombus.

DISCUSSION

Acute mesenteric vein thrombosis is responsible for 6% to 9% of cases of acute mesenteric ischemia.[1] IMV thrombosis is relatively uncommon and constitutes 4% to 11% of cases of acute mesenteric vein thrombosis.[2,3] However, IMV thrombosis carries a 15% to 23% risk of mortality.[4-6] It is usually seen in the setting of thrombophilia or local inflammation, and IMV thrombosis on abdominal imaging should prompt workup for these conditions.[7] Initial management involves bowel rest, pain control, intravenous hydration, and therapeutic anticoagulation with bridging from heparin to warfarin.[7] Surgical resection is reserved for patients with progressive intestinal dilatation or peritoneal signs.

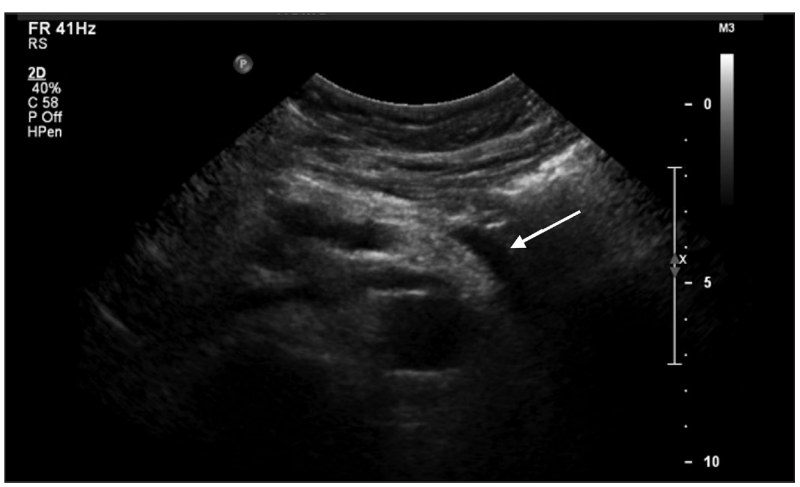

Figure 6. Ultrasound of the abdomen 30 weeks after initial treatment. The white arrow indicates the patent splenic vein without any thrombus.

IMV thrombosis is an uncommon but potentially life-threatening complication of sigmoid diverticulitis. Prompt diagnosis and management of IMV thrombosis can prevent mesenteric infarction or surgical intervention. ❖

Disclosure Statement

The authors have no conflict of interest to disclose.

References

1. Harnik IG, Brandt LJ. Mesenteric venous thrombosis. Vasc Med 2010 Oct;15(5):407-18. DOI: http://dx.doi.org/10.1177/1358863X10379673.
2. Grisham A, Lohr J, Guenther JM, Engel AM. Deciphering mesenteric venous thrombosis: imaging and treatment. Vasc Endovascular Surg 2005 Nov-Dec;39(6):473-9. DOI: http://dx.doi.org/10.1177/153857440503900603.
3. Alvi AR, Khan S, Niazi SK, Ghulam M, Bibi S. Acute mesenteric venous thrombosis: improved outcome with early diagnosis and prompt anticoagulation therapy. Int J Surg 2009 Jun;7(3):210-3. DOI: http://dx.doi.org/10.1016/j.ijsu.2009.03.002.
4. Acosta S, Alhadad A, Svensson P, Ekberg O. Epidemiology, risk and prognostic factors in mesenteric venous thrombosis. Br J Surg 2008 Oct;95(10):1245-51. DOI: http://dx.doi.org/10.1002/bjs.6319.
5. Morasch MD, Ebaugh JL, Chiou AC, Matsumura JS, Pearce WH, Yao JS. Mesenteric venous thrombosis: a changing clinical entity. J Vasc Surg 2001 Oct;34(4):680-4. DOI: http://dx.doi.org/10.1067/mva.2001.116965.
6. Dentali F, Ageno W, Witt D, et al; WARPED consortium. Natural history of mesenteric venous thrombosis in patients treated with vitamin K antagonists: a multi-centre, retrospective cohort study. Thromb Haemost 2009 Sep;102(3):501-4. DOI: http://dx.doi.org/10.1160/TH08-12-0842.
7. Singal AK, Kamath PS, Tefferi A. Mesenteric venous thrombosis. Mayo Clin Proc 2013 Mar;88(3):285-94. DOI: http://dx.doi.org/10.1016/j.mayocp.2013.01.012.