



## Visual diagnosis

## Abdominal pain etiology in cirrhotic patient



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A 61 year old man presented to the emergency department (ED) with constipation and vomiting for ten days. His blood pressure

was 126/82 mmHg and pulse 82/min, while the oxygen saturation and fever was 98.0% and 36.7 °C, respectively. Hepatitis B carrier, diabetes, hypertension, and hospitalization due to a mesenteric panniculitis in last month were positive in his past medical history. Abdominal distention and diffuse tenderness were noted. The White blood cell count was  $9.6 \times 10^3/\text{mL}$ , while hemoglobin, creatinine, urea, AST, ALT, total bilirubin, pH, and  $\text{HCO}_3$  were 12.8 g/dL, 2.92 mg/dL, 29.9 mg/dL, 22 U/L, 17 U/L, 0.51 mg/dL, 7.30, and 19 mmol/s, respectively. Contrast-enhanced abdominal computed tomography (CT) was performed to elucidate the etiology of abdominal pain (Fig. 1A–B).

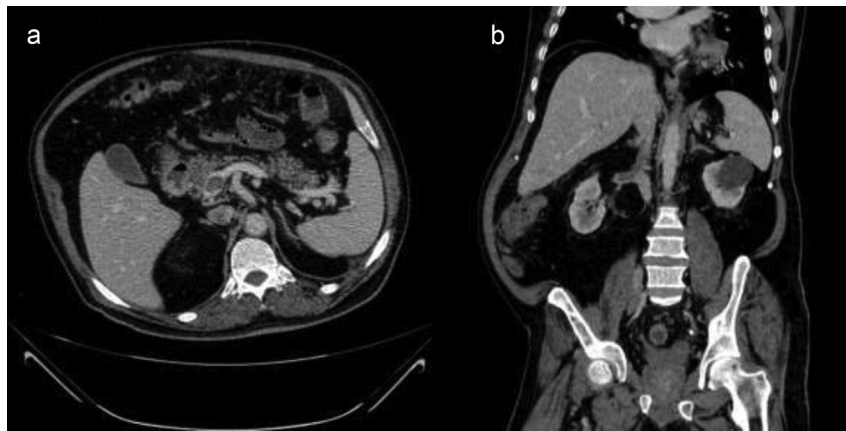
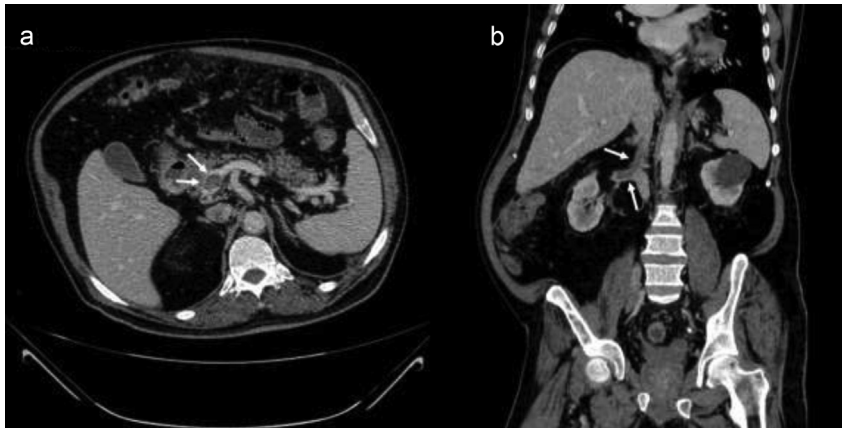


Fig. 1. a. Axial contrast-enhanced abdominal computed tomography cross-section. b. Coronal cross-section.

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**Fig. 2.** a. The presence of thrombus in the portal vein (white arrow) b. In coronal sections thrombus is seen to extend to the renal vein (white arrow). The right and left kidneys are consecutively 6.5 cm and 5.5 cm of length, this is suggestive for renal atrophy due to of chronic renal failure.

### 1. Diagnosis: portal vein thrombosis

Portal vein thrombosis, although rarely seen in a healthy population, is an usual complication in cirrhotic patients with 10–25% prevalence during the course of the disease.<sup>1</sup> It is also frequent in the hypercoagulability settings such as malignancy and myeloproliferative disorders, etc.

Portal vein thrombosis may present as an acute or chronic state. Since chronic portal vein thrombosis rarely produces severe signs and symptoms, it is often detected through as an accident by using CT performed for other reasons.<sup>2</sup> Abdominal pain, bloody diarrhea, bloating, nausea, vomiting, splenomegaly, bowel wall edema, and ischemia findings are more significant for acute portal vein thrombosis. Chronic portal vein thrombosis causes symptoms as splenomegaly, varices, ascites, gastrointestinal bleeding, obstructive jaundice, and hematologic disorders related to portal hypertension.<sup>1–3</sup> As the thrombosis may progress and expand to the mesenteric vein, it may also cause abdominal pain and bowel ischemia.<sup>4</sup> Formation of collateral vessels (cavernous transformation) is suggestive of chronic portal vein thrombosis. Doppler imaging improves diagnostic accuracy, while contrast-enhanced computed tomography and magnetic resonance imaging are the gold standard methods for detecting intestinal ischemia and other complications of portal vein thrombosis.<sup>5</sup>

Anticoagulant therapy should be administered in acute portal vein thrombosis to prevent thrombotic expansion, which may complicate with acute bowel ischemia and portal hypertension.

Anticoagulant therapy in patients with chronic portal vein thrombosis is controversial and should be decided according to the risk-benefit ratio.

In our case, thrombosis was observed in portal, superior mesenteric, renal, and splenic vein. Chronic portal vein thrombosis should be considered if the presence of mild symptoms and examination findings, spontaneous reduction of abdominal pain, and collateral vasculature is shown by CT (Fig. 2A–B). The patient was admitted to a general surgical department and anticoagulant therapy was started. The patient was eventually discharged uneventfully ten days after admission.

Emergency physicians should consider portal vein thrombosis as a cause of abdominal pain especially in cirrhotic patients.

### References

1. Rodriguez-Leal GA, Moran S, Corona-Cedillo R, Brom-Valladares. Portal vein thrombosis with protein C-S deficiency in a non-cirrhotic patient. *World J Hepatol.* 2014;6:532–537.
2. Tsochatzis EA, Senzolo M, Germani G, Gatt A, Burroughs AK. Systematic review: portal vein thrombosis in cirrhosis. *Aliment Pharmacol Ther.* 2010;31:366–374.
3. Sogaard KK, Astrup LB, Vilstrup H, Gronbaek H. Portal vein thrombosis; risk factors, clinical presentation and treatment. *BMC Gastroenterol.* 2007;7:34.
4. Hoekstra J, Janssen HL. Vascular liver disorders (II): portal vein thrombosis. *Neth J Med.* 2009;67:46.
5. Ponziani FR, Zocco MA, Tortora A, Gasbarrini A. Is there a role for anticoagulants in portal vein thrombosis management in cirrhotic patients? *Expert Opin Pharmacother.* 2010;11:1479–1487.