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IMAGE | LIVER

Symptomatic Presentation of Intrahepatic Portal Vein Aneurysm

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Case Report

A 52-year-old female without comorbidities presented with dull, aching pain in the right upper quadrant associated with nausea, but not fever, jaundice, anorexia, or abdominal distension. Examination showed tachycardia and mild tenderness in the right upper quadrant. Investigations revealed a normal hemogram with preserved liver function, renal function, and normal pancreatic enzyme levels. Abdominal ultrasound revealed a space-occupying lesion in the right hemiliver. Abdominal magnetic resonance imaging (MRI) revealed a 5.8 x 5.6 x 4.5-cm, well-defined subcapsular lobulated T1-hypointense and T2-hyperintense lesion in segment V and VI. During post-contrast MRI, the lesion showed complete filling on venous phase, which persisted in the equilibrium phase, turning iso-intense on delayed hepatobiliary phase. The segment V branch of right portal vein showed "luminal continuity" sign (Figure 1). A Doppler ultrasound of the liver showed anechoic signal from the lesion with color filling on Doppler and monophasic flow on pulsed Doppler, consistent with portal vein aneurysm (PVA; Figure 2).

Barzilai and Kleckner first reported a case of main PVA in 1956. A portal vein diameter more than 20 mm is diagnostic of aneurysm (average in healthy subjects 15 mm; cirrhosis 19 mm). They are either congenital or acquired, and are either extrahepatic (location at the main portal vein is more common than the splenomesenteric venous confluence) or intrahepatic (at bifurcations).[1] Extrahepatic PVA is due to progressive enlargement of diverticular remnant of vitelline vein forming a saccular aneurysm later in life. Intrahepatic PVA is seen in cirrhosis, portal hypertension, pancreatitis, abdominal surgery, trauma, and in Osler-Weber-Rendu syndrome. Presentation is mostly asymptomatic, and complications include thrombosis, rupture, compression, and portal hypertension. Surgical options include aneurysmorrhaphy, portocaval shunt, and mesocaval shunt. Medical management includes anticoagulation or close observation and masterly inactivity, as shown here.[2]

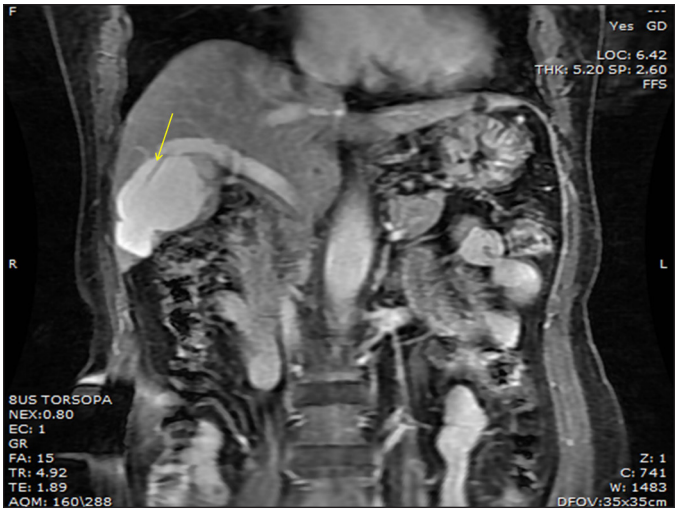

Figure 1. The segment V branch of right portal vein showing the luminal continuity sign (yellow arrow) on post-contrast MRI.

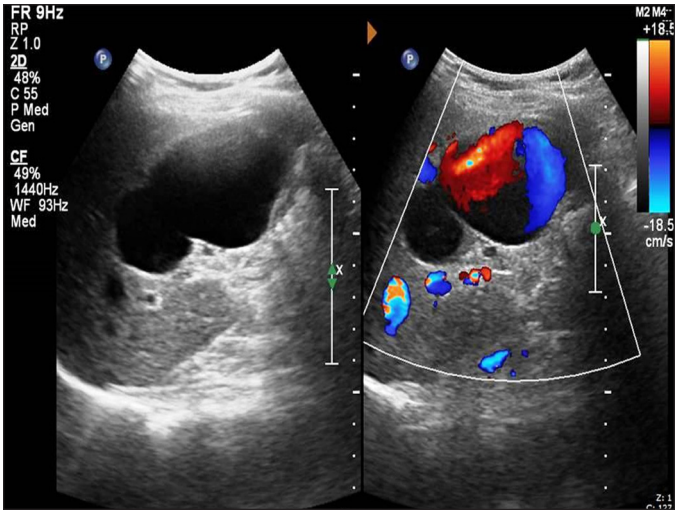

Figure 2. Doppler ultrasound of the liver showing anechoic signal from the lesion with color filling and on pulsed Doppler showing monophasic flow, consistent with PVA.

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Disclosures

Author contributions: CA Philips designed the study, wrote and edited the manuscript, and is the article guarantor. L. Anand and KN Chandan Kumar reviewed and edited the manuscript.

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