

PORTOHEPATIC SHUNT IN A PATIENT WITHOUT CIRRHOSIS

A. Kucuk¹, S. Poturoglu², O. Gurbuz¹, Y. Savas¹

Key-word: Aneurysm, splenic

Background: A 65-year-old woman was admitted with complaint of a left gluteal mass. She had a history of congenital hip dislocation and a known splenic enlargement for more than 40 years. The patient had pancytopenia on admission. Hematocrit level 23.7%, white blood cell count $2.5 \times 10^3/\mu\text{L}$, platelet count $69 \times 10^3/\mu\text{L}$ were measured. Liver function tests were normal. Viral markers such as hepatitis B surface antigen and anti-hepatitis C related to liver disease were negative. There was no known liver biopsy or history of trauma.



Fig.

1A	1B
1C	1D
2	

Work-up

Contrast-enhanced CT image (Fig. 1) through the splenic hilum (A) shows a huge aneurysm of the splenic vein (arrow) with anteroposterior diameter of 6.5 cm. Almost complete and curvilinear calcification of the wall and also presence of a thrombus anteriorly and laterally (long arrow). On contrast-enhanced CT image caudal to previous image (B), there is continuity between the lumen of the aneurysm and the splenic vein. The confluence of splenic and superior mesenteric vein has a diameter of 26 mm (C). Contrast-enhanced CT image through the right liver lobe (D) shows that the main portal vein and right branch of portal vein (arrow) are both dilated aneurysmatically. On contrast-enhanced CT image cranial to previous image through the right liver lobe, there is obvious dilatation of the portal vein (white arrow) and hepatic vein (black arrow) and presence of a (portosystemic) shunt between the two veins.

US examination through the splenic hilum (Fig. 2) demonstrates splenic vein aneurysm as an anechoic cystic mass that shows posterior acoustic enhancement. With CD-US examination (not shown), a monophasic venous flow in a hepatopetal direction through the right branch of the portal vein was observed.

Radiological diagnosis

The findings on CT, US and CD-US, together with the medical history of the patient, suggested the diagnosis of a huge *calcified splenic aneurysm*, aneurysmal dilatation of portal vein and a spontaneous portohepatic shunt in a hepatopetal direction.

Discussion

Although aneurysms of portal vein and splenic vein are uncommon, they are detected more frequently with increasing use of non-invasive imaging modalities. The etiology of aneurysms can be congenital or more commonly acquired. Acquired causes such as portal hypertension, or chronic hepatic disease, vascular inflammation

from pancreatitis, traumatic injury to the vessel wall, or abdominal surgery have been reported.

Portosystemic shunts are also extremely rare. Only a few cases were reported in English literature: a case with calcified portal vein aneurysm and portohepatic venous shunt in a patient with liver cirrhosis by So, a case which was diagnosed with a latent portosystemic encephalopathy during hospitalization by Fulcher, and a third case with intrahepatic aneurysmal portohepatic venous shunt that was treated with embolization by Fanelli.

We report on a non-cirrhotic patient with a calcified splenic vein aneurysm, aneurysmal dilatation of main portal vein and right branch of portal vein associated with spontaneous portohepatic shunt. There was no evidence of hepatic disease, liver biopsy, nor previous trauma. The patient had pulmonary hypertension on echocardiographic examination which may be a consequence of the portohepatic shunt.

Cranio-caudal diameter of spleen was measured as 25 cm, and pancytopenia of the patient was explained by sequestration through the spleen. The gluteal abscess of the patient was drained by a simple surgical intervention. The patient was informed about findings and risk factors i.e. hepatic encephalopathy related to portosystemic shunt, rupture, or acute thrombosis of aneurysms and called for close follow-up.

Bibliography

1. Fanelli F, Marcelli G., Bezzi M., et al.: Intrahepatic aneurysmal portohepatic venous shunt: embolization with a tissue adhesive solution. *J Endovasc Ther*, 2003, 10: 147-153.
2. Fulcher A., Turner M.: Aneurysms of the portal vein and superior mesenteric vein. *Abdom Imag*, 1997, 22: 287-292.
3. Ozbek S.S., Killi M.R., Pourbagher M., et al.: Portal venous system aneurysms: report of five cases. *Ultrasound Med*, 1999, 18: 417-422; quiz 423.
4. So N.M., Lam W.W.: Calcified portal vein aneurysm and portohepatic shunt in a patient with liver cirrhosis. *Clin Radiol*, 2003, 58: 742-744.