A Tender Pulsatile Mass in a Patient with Splenomegaly

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A 30-years-old lady having lump in left upper abdomen for 10 years and now she presented with severe pain in same area with radiation to left shoulder for 1 week. Clinical examination revealed pallor, icterus, massive splenomegaly and a tender pulsatile lump of size 6 × 6 cm adjacent to spleen with a bruit.

On investigations she was anemic with a hemoglobin of 8.7 g/dl (normal, 14–18 g/dl), total leukocyte count of 3800/mm³ (normal, 4000–10000/mm³), platelet count of 76000/mm³ (normal 1.5–4.5 lakhs/mm³), total bilirubin of 1.1 mg/

dl (normal 0.3–1.2 mg/dl), alanine transaminase of 25 (0–40 IU/l), aspartate transaminase of 36 (0–50 IU/L), alkaline phosphatase of 125 (25–140 IU/L), albumin of 4.4 (3.5–5.0 g/dl) and globulin –2.8 (2.7–3.5 g/dl). Upper gastrointestinal endoscopy revealed small esophageal varices.

Triple phase computerized tomography (CT) with angiography and magnetic resonance imaging with cholangiography (MRI with MRCP) was done as shown in Figure 1.

What is your diagnosis?

Figure 1 CECT Abdomen (A), angiography (B), T2 weighted MRI (C) and MRCP (D).

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Abbreviations: EHPVO: Extra Hepatic Portal Venous Obstruction; SAAs: Splenic Artery Aneurysm

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Large Splenic Artery Aneurysm—Extra Hepatic Portal Venous Obstruction (EHPVO) Related with Portal Biliopathy

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Triple phase CT with angiography showed splenic artery aneurysm of 7×6 cm in distal part, with areas of calcification, massive splenomegaly, multiple collaterals, normal echo texture of liver, portal vein not clearly visible and no ascites. (Figure 2A and B). MRI with MRCP revealed similar finding with dilated intrahepatic biliary radicles with non-visualization of lower bile duct and with formation of portal cavernoma (Figure 2C and D).

The diagnosis of extra hepatic portal venous hypertension with portal biliopathy (asymptomatic) and large splenic artery aneurysm was made. In view of distal location of aneurysm, patient was planned for artery ligation, aneur-

ysmectomy, splenectomy and shunt surgery. Unfortunately patient lost to follow up, only to return with rupture of aneurysm and hemodynamic instability after 10 days. Eventually she succumbed even before any operative intervention could be carried out within hours of hospitalization.

Splenic artery aneurysms (SAAs) are rare and the incidence of splenic artery aneurysms in the general population is 0.1%. Portal hypertension appears to be a significant risk factor for the development of an SAA and is associated with a 50% increased risk of SAA development,^{1,2} though there is no data to compare between cirrhotic with non-cirrhotic form of portal

Figure 2 Triphasic CT Abdomen (A) and angiography (B) showing splenic artery aneurysm of 7×6 cm in distal part, with areas of calcification (black arrow), massive splenomegaly, multiple collaterals (white arrow) and normal echo texture of liver. T2 weighted MRI (C) showing portal cavernoma (white arrow) and MRCP (D) showing dilated intrahepatic biliary radicles with bile duct compressed by collaterals (black arrow).

hypertension. They are commonly seen in females in 5th to 6th decade of life with mean age of presentation 52 years.³

In portal hypertension, there exists a "splenic hyperkinetic state" that promotes the development of SAA. They have significantly increased splenic venous flow, splenic artery diameter and Porto systemic shunts. The formation of large Porto systemic shunts is thought to reduce resistance and increase flow through the splenic vein; consequently, an increase in splenic artery blood flow is required to increase portal pressure and maintain liver perfusion resulting in the formation of aneurysms.⁴

Clinically, most SAAs are asymptomatic. A large series showed 97.5% of patients were asymptomatic. The mean diameters are 2.2 cm and rarely more than 3 cm. They have propensity for spontaneous rupture especially with liver transplantation, portal hypertension and pregnancy.⁵

Majority of patients with portal hypertension complicated with SAAs have cirrhosis as the underlying etiology; only limited information is available in the literature on association/management of extra hepatic portal vein obstruction with SAA and has mentioned only in case reports and small series.^{6,7}

Treatment is indicated in symptomatic individual and in asymptomatic aneurysms greater than 2 cm. However in portal hypertension, treatment is indicated irrespective of size because of high incidence of spontaneous rupture. Aneurysms located in proximal/middle third of splenic artery may be treated with simple excision and splenic preserva-

tion. For aneurysms located in distal third, resection with splenectomy is most often performed.⁸ Endovascular treatment options are also available like coil/glue embolization and stent exclusion.

CONFLICTS OF INTEREST

All authors have none to declare.

REFERENCES

1. Briard RJ, Lee J, Doyle T, Thompson P. Endovascular repair of a portal hypertension related splenic artery aneurysm using a self expanding stent-graft. *Cardiovasc Interv Radiol*. 2009;32:1111–1113.
2. Sunagozaka H, Tsuji H, Mizukoshi E, et al. The development and clinical features of splenic aneurysm associated with liver cirrhosis. *Liver Int*. 2006;26:291–297.
3. Dave SP, Reis ED, Hossain A, Taub PJ, Kerstein MD, Hollier LH. Splenic artery aneurysm in the 1990s. *Ann Vasc Surg*. 2000;14:223–232.
4. Ohta M, Hashizume M, Ueno K, Tanoue K, Sugimachi K, Hasuo K. Hemodynamic study of splenic artery aneurysm in portal hypertension. *Hepatogastroenterology*. 1994;41:181–184.
5. Agrawal GA, Johnson PT, Fishman EK, et al. Splenic artery aneurysms and pseudoaneurysms: clinical distinctions and CT appearances. *AJR*. 2007;188:992–999.
6. Mishra PK, Saluja SS, Sharma AK, Pattnaik Premanand. Management of splenic artery aneurysm associated with EHPVO. *Hepatobiliary Pancreat Dis Int*. 2012;11:330–333.
7. Ali S, Verma V, Sastry R, Wani Imtiaz. *Giant Splenic Artery Aneurysm: Case Report*. ISRN Surgery; 2011, 10.5402/2011/383450.
8. De Perrot M, Buhler L, Schneider PA, Mentha G, Morel PR. Do aneurysms and pseudoaneurysms of the splenic artery require different surgical strategy? *Hepatogastroenterology*. 1999;46:2028–2032.