

## Successful treatment of portal hypertension from splenic arteriovenous fistula by coil embolization followed by splenectomy

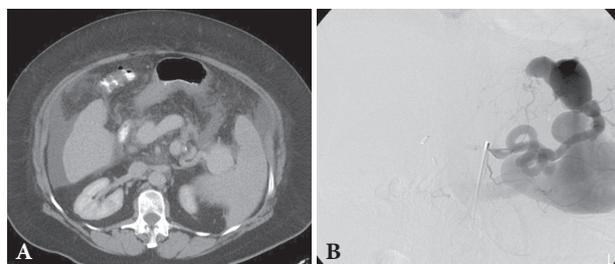
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Splenic arteriovenous fistulas (SAVF) are a rare cause of portal hypertension (PHTN). They usually occur secondary to abdominal trauma, aneurysmal erosion, or as a complication of abdominal surgery [1]. Their clinical presentation depends on the size, location, and acuity. Indications for treatment include: hemorrhage, ascites, and worsening PHTN [2]. There are less than 50 published cases of PHTN due to SAVF based on our literature review.

A 61-year-old female without prior liver disease, abdominal trauma, or surgery, complained of a 3-month history of ascites and intermittent melena. Hemoglobin was 8 g/dL. Platelet count, transaminase levels, bilirubin, albumin and INR were normal. Anti-smooth muscle, anti-mitochondrial, and anti-nuclear antibodies were all negative. The serum-ascites-albumin-gradient was 2.5 g/dL and an ascitic fluid total protein was 1.2 g/dL. Large esophageal varices were found on endoscopy and were banded prophylactically. Abdominal ultrasound with Doppler showed ascites, splenomegaly, and a large SAVF at the splenic hilum. Abdominal CT scan followed by angiography confirmed the same SAVF (Fig. 1A & B).

A two-step approach involving endovascular coil embolization (Fig. 2) followed by surgical splenectomy was performed. The resected spleen is shown with a metal pointer traversing the fistula (Fig. 3). The proximity of the arteriovenous (AV) fistula to the spleen may result in splenic infarction during coil embolization. Upfront excision of the AV fistula may result in massive hemorrhage. In order to prevent these complications, we proceeded with a two-step approach with coil embolization followed by splenectomy. The patient tolerated the surgery well and remained asymptomatic.



**Figure 1** (A) CT abdomen and (B) angiogram showing splenic arteriovenous malformation



**Figure 2** Endovascular coil embolization of the arteriovenous fistula



**Figure 3** Gross surgical specimen of the spleen with arteriovenous fistulous tract (metal pointer)

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Conflict of Interest: None

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Received 13 January 2013; accepted 21 January 2013

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