

PICTURES IN DIGESTIVE PATHOLOGY

Acute abdomen due to torsion of the wandering spleen

Vanessa Sojo-Rodríguez, Jesús Cañete-Gómez, Claudia Olivares, Julio Reguera-Rosal, Juan José Segura-Sampedro, Violeta Camacho-Marente, Francisco López-Bernal and Javier Padillo-Ruiz

Department of General Surgery and Digestive Diseases. Hospital Universitario Virgen del Rocío. Sevilla, Spain

CASE REPORT

A 25-years-old male was admitted to the emergency unit with a week history of intermittent upper left quadrant abdominal pain that had increased in the last 24 hours prior to admission. On examination, the patient presented with bad general condition, no fever, BP 120/80 mmHg and 80 bpm. His abdomen was not distended, with diffuse painful though with maximal tenderness in the left mid-abdomen, where a mass was palpated. Laboratory data showed neutrophilia (83.3%), leukocytosis (8.600/ μ L), thrombocytopenia ($86 \times 10^3/\text{mm}^3$), and a hemoglobin level of 12.6 g/dL. Abdominal ultrasound with Doppler showed a huge splenomegaly with homogeneous parenchyma and splenic vein thrombosis and decreased arterial flow (Fig. 1). Contrast-enhanced computed tomography (CT) of the abdomen and pelvis was performed and demonstrated the presence of a giant splenomegaly (> 20 cm), with homogeneous hypodensity parenchyma in relation with splenic vein thrombosis with malposition of the spleen and twisting of its vascular hilum guiding torsion and affecting also the pancreatic tail and splenic flexure of the colon (Fig. 2).

An urgent exploratory laparotomy was made that evidenced a giant (> 20 cm), congestive and twisted spleen, with signs of ischemia (Fig. 3) and massive thrombosis of the splenic vein, causing the acute abdomen. Splenectomy was performed. The

postoperative course was favorable, with normalization of platelet count and slight increase of leukocytes, and the patient was discharged home on postoperative day 4. The histological study showed congestive splenomegaly with no neoplastic infiltration and presence of cystic formations at hilar level.

DISCUSSION

Wandering spleen is a rare clinical entity, in which the spleen is free to move from its anatomic position to the lower abdomen or pelvis. It can present as a painful abdominal or pelvic mass,

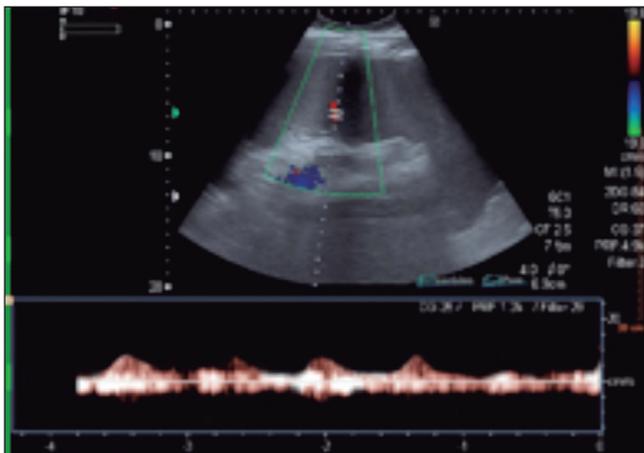


Fig. 1. Eco-Doppler ultrasound of splenic artery: Decreased blood flow of splenic artery is demonstrated.

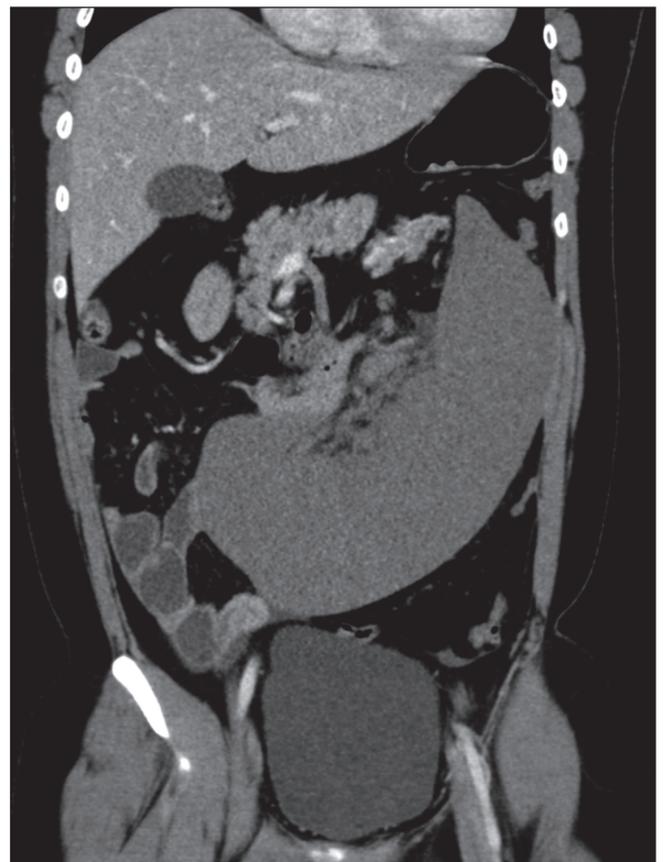


Fig. 2. Coronal tomography: Large splenomegaly with abnormal localization and splenic hilum and distal pancreas twisted.

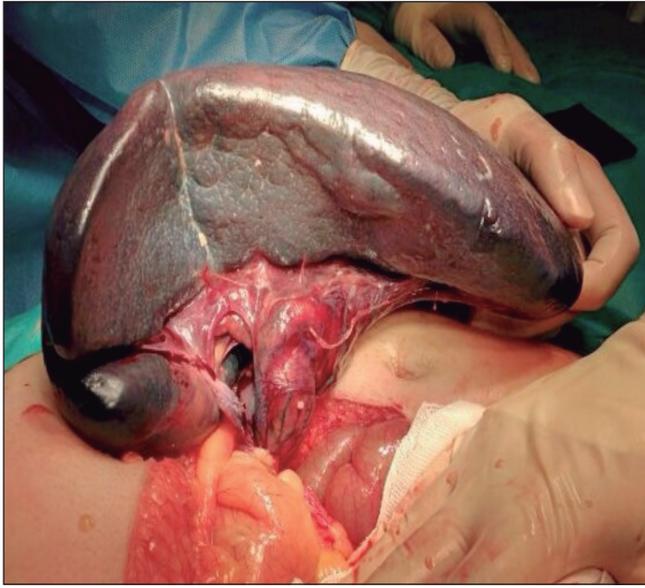


Fig. 3. Intraoperative image after splenic mobilization: Torsion of splenic vein and thrombosis of vascular axis is evidenced.

or as acute surgical abdomen due to torsion, hemorrhage, or cyst formation. However, the true incidence is unclear because many cases are asymptomatic. This abnormality is incidentally found most commonly in women between the ages of 20 and 40 years (1). Congenital wandering spleen occurs as a result of a deficiency or underdevelopment of the suspensory ligaments of the spleen. Acquired wandering spleen is caused by underlying conditions that may weaken these ligaments, such as the hormonal effects of pregnancy and abdominal wall laxity (2).

Chronic or recurrent hilum torsion leads to venous congestion and therefore the development of splenomegaly. The most common complication (60%) is the torsion of the pedicle which can cause splenic infarction, sepsis, acute pancreatitis and gastrointestinal bleeding secondary to portal hypertension or splenic vein thrombosis (3,4). Other less common complications include intestinal obstruction, gastric volvulus, spontaneous or traumatic spleen rupture (4).

Because a clinical diagnosis is difficult to determine, imaging studies are necessary. Abdominal US detects enlarged spleen and Doppler shows decreased perfusion of the spleen, as we observed in our case. On CT we can see a whirl splenic hilum; this is a pathognomonic sign of splenic torsion (whirl sign) (5).

Treatment of choice is splenopexy if the spleen is viable, despite the high rate of recurrence. When it is not possible to preserve the spleen, the standard treatment is splenectomy followed by prophylactic antibiotic therapy and vaccination for encapsulated bacteria.

REFERENCES

1. Soleimani M, Mehrabi A, Kashfi A, et al. Surgical treatment of patients with wandering spleen: Report of six cases with review of the literature. *Surg Today* 2007;37:261-9.
2. Yücel E, Kurt Y, Özdemir Y, et al. Laparoscopic splenectomy for the treatment of wandering spleen in a pregnant woman: A case report. *Surg Laparosc Endosc Percutan Tech* 2012;22:102-4.
3. Corcione F, Caiazzo P, Cuccurullo D, et al. Laparoscopic splenectomy for the treatment of wandering spleen. *Surg Endosc* 2004;18:554-6.
4. Moran JC, Shah U, Singer JA. Spontaneous rupture of a wandering spleen: Case report and literature review. *Curr Surg* 2003;60:310-2.
5. Priyadarshi RN, Anand U, Kumar B, et al. Torsion in wandering spleen: CT demonstration of whirl sign. *Abdom Imaging* 2013;38:835-8.