

14 Year-Old Female With Splenic Torsion

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A 14-YEAR-OLD FEMALE WITH HIV DEVELOPED intermittent left-sided abdominal pain one day prior to admission. Her pain progressed rapidly over 24 hours, becoming constant and severe, inducing nausea and vomiting. Her physical exam was notable for left abdominal pain and apparent splenomegaly. Vital signs on admission were as follows: blood pressure 101/62 mmHg, heart rate 112 bpm, respiratory rate of 20, and temperature of 98.7 F°.



Figure 1. Transverse Doppler US of splenic hilum. Absent flow in splenic vein (arrows).

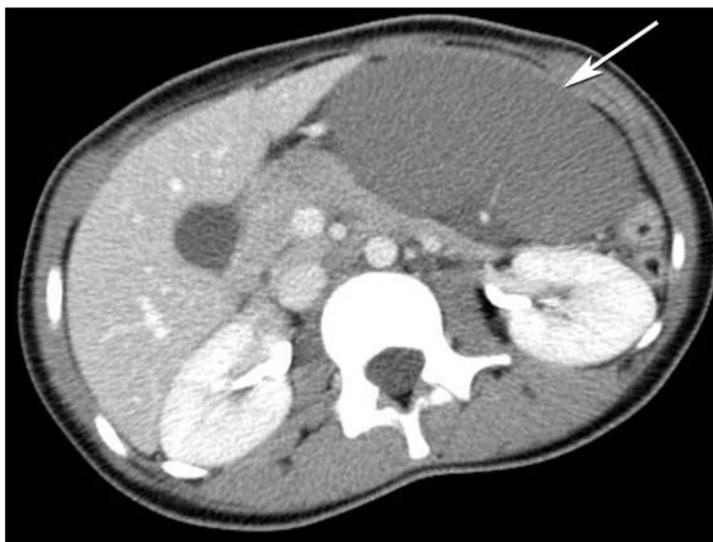


Figure 2. Computed Tomography. Coronal image. (left) Ectopic spleen (arrow) without parenchymal enhancement. Axial image. (right) Ectopic spleen (arrow) anterior to left kidney and pancreas.

Diagnostic imaging was pursued. Ultrasound examination demonstrated a prominent, ectopic spleen positioned anterior to the left kidney and pancreas. Doppler assessment of the splenic hilum was performed. While arterial flow was demonstrated in the splenic artery, no discernable flow was obtained in the splenic vein. (Figure 1) The sonographic findings were concerning for wandering spleen complicated by splenic torsion.

Computed tomography (CT) with intravenous contrast was performed immediately prior to surgical intervention. CT revealed an enlarged, ectopic spleen without parenchymal enhancement. (Figure 2)

Congenital absence of the splenorenal and gastrosplenic ligaments, with 270-360 degrees of splenic torsion was confirmed surgically. Splenectomy was performed given surgical evidence of splenic infarction. An accessory spleen showing preserved perfusion was spared.

DISCUSSION

Splenic torsion is a rare cause of abdominal pain. In a surgical series of 1,413 splenectomies, pathology revealed splenic torsion as the underlying etiology for the patient's symptoms in only 0.3% of cases.¹ Splenic torsion occurs in the setting of a "wandering spleen," related to congenital absence or laxity of the gastrosplenic and splenorenal ligaments. Absence or laxity of these ligaments results in elongation of the splenic vascular pedicle and splenic "wandering" or hypermobility.²⁻⁴ Several cases have also been reported in association with splenomegaly or during the post partum period. In these cases, ligamentous laxity may be due to the enlarged spleen or hormonal effects.⁵

In patients with wandering spleen, torsion can be intermittent, causing symptoms of mild abdominal pain related to splenic congestion, or it can be acute and severe, leading to rapid splenic necrosis and associated symptoms of acute abdomen.⁵ While physical exam often reveals a painful abdominal mass, the diagnosis is generally made by cross-sectional imaging.³⁻⁵

Ultrasound often demonstrates an enlarged, ectopic spleen. Splenic echotexture varies by the degree of parenchymal congestion and/or infarction.^{3,4,6} Similar findings can be seen with contrast en-

hanced CT, including an enlarged, ectopic spleen with relative hypoattenuation, suggesting poor perfusion.^{3,4,6} In some cases, twisting of the vascular pedicle may demonstrate a “whorled” appearance.³

Splenic torsion is treated surgically, with detorsing of the vascular pedicle and splenopexy if the spleen is found to be viable, or with splenectomy if the spleen is already necrotic. In patients who undergo splenectomy, vaccination for *Hemophilus influenzae* B, meningococcus, and pneumococcus has become standard prophylaxis.^{5,6}

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