Torsion of a wandering spleen

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A 34 YEAR-OLD PATIENT presented with a 3-day history of constant epigastric pain and chills. The pain was constant in nature, but it markedly increased in the next few hours. Over the prior 2 months, he reported similar episodes that had resolved spontaneously. He was afebrile and his vital signs were stable. Abdominal examination revealed marked diffuse abdominal tenderness and guarding. A large central abdominal mass was palpable. Significant laboratory values included a white blood cell count (4,700/μL), platelet count (80,000/μL), and hemoglobin level of (18.1 g/dL). An abdominal computed tomography scan with oral and intravenous contrast was performed and revealed a large homogenous soft tissue mass in the right mid-abdomen that was consistent with an ectopic position of the spleen (Fig 1). Duplex ultrasonography was performed, which confirmed an ectopically located spleen with minimal blood flow.

The patient underwent exploratory laparotomy through a midline incision. This revealed a massively enlarged spleen and infarction (Fig 2). There was no evidence of any splenocolic, splenorenal, or splenophrenic ligament; therefore, the spleen was freely floating in the peritoneal cavity. The splenic pedicle was exceedingly long (~20 cm) and was twisted more than 3 full rotations in a clockwise fashion (Fig 3). A splenectomy was performed, and the patient's recovery was uneventful. Gross pathology showed a spleen that weighed 2340 g and measured 27 × 15 × 9 cm. A histologic evaluation showed extensive hemorrhagic areas and areas of infarction. No signs of preexisting disease were found.

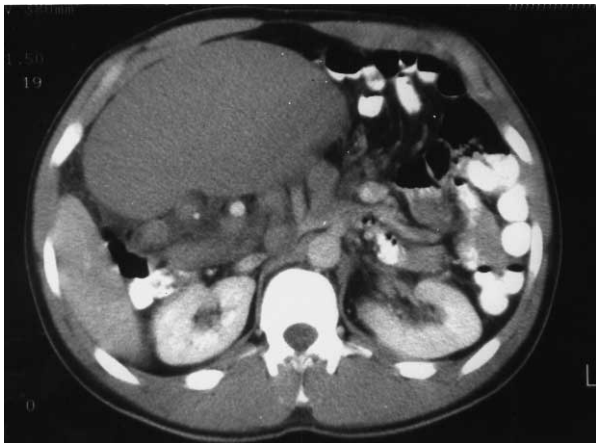

Fig 1. Computed tomography of the abdomen showing an abnormally located spleen in the upper right mid-abdomen.

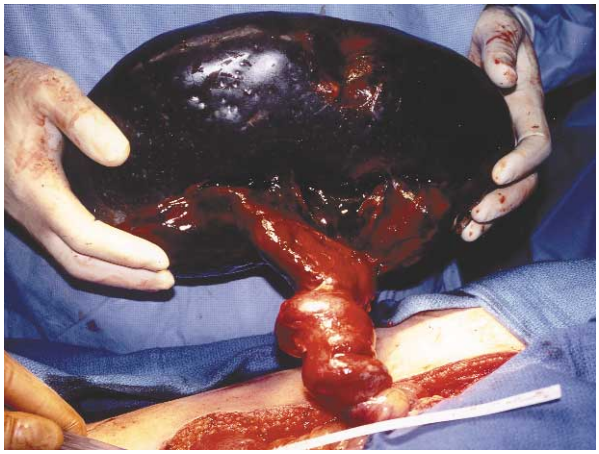

Fig 2. Intraoperative findings revealing a massively enlarged spleen with areas of congestion and infarction.

DISCUSSION

The torsion of a wandering spleen is exceedingly rare; it accounts for only 2 of 1000 splenectomies in 1 series.[1] The first detailed description of a wandering spleen is credited to Van Horne in 1667, who described a wandering spleen as an incidental finding during an autopsy. Since then, the condi-

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Fig 3 Exceedingly long splenic pedicle with multiple twists.

tion has been described in patients between the ages of 3 months to 82 years; most cases have been in middle-aged adults.[2]

The normal spleen is covered by peritoneum and has very little mobility. The splenorenal and gastrosplenic ligaments fix the spleen in its normal position, and a spleen can only wander if these ligaments become defective. The cause of a wandering spleen is not completely understood. Both congenital and acquired mechanistic causes have been proposed for wandering spleen. The congenital assumption points to a failure of the dorsal mesogatrium to fuse to the posterior abdominal wall during the second month of embryonic development, and this results in an unusually long splenic pedicle.[3] Others have proposed that an acquired mechanism exists in multiparous women that are secondary to hormonal changes during pregnancy and associated abdominal laxity.[2]

It is believed that most patients with a wandering spleen are asymptomatic; therefore, its true inheritance is unknown. Many patients, however, will have complaints of recurrent abdominal pain. Severe and persistent abdominal pain suggests splenic torsion with secondary ischemia. Acute splenic torsion compromises venous outflow, which produces congestion and impairment of arterial inflow. Pain appears secondary to both capsular stretching with rapid splenic enlargement and local peritonitis.

Historically, splenectomy has been the treatment for symptomatic wandering spleen.[4] With increasing appreciation for the importance of the spleen in reticuloendothelial function, there has been renewed interest in splenopexy. However, in cases of splenic torsion with infarction, splenectomy is required. Attention to vaccination for encapsulated organisms should be performed, usually 1 to 2 weeks after splenectomy.

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