# Torsion of a Wandering Spleen

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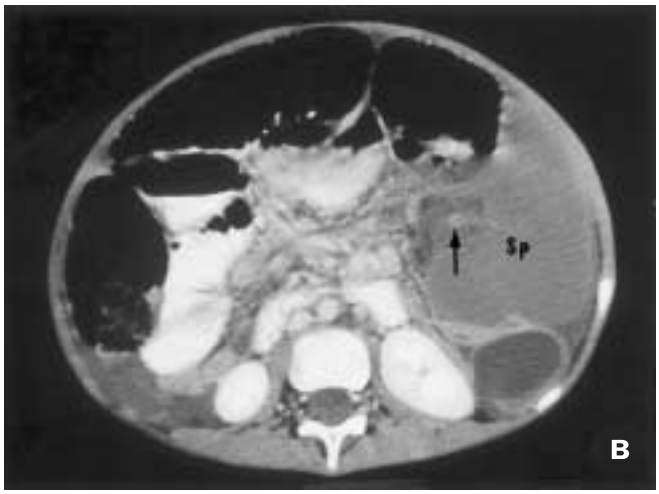
A 7.5 year old otherwise healthy boy was transferred from another hospital, with abdominal pain, an increase of his abdominal girth and a decrease in hemoglobin level observed over a 2 day period. Physical examination revealed splenomegaly and tenderness in the left lower quadrant with slight rebound. The white blood cell count was elevated (20,000/mm$^3$). Ultrasonography demonstrated no blood flow in the splenic vein and a low flow in the splenic artery. Subsequent computerized tomography showed an enlarged spleen, situated in the left mid-abdomen caudal to its normal position [Figure A, B]. There was no parenchymal enhancement after intravenous contrast administration. A whorled appearance typical of torsion of the splenic pedicle was seen medial and cranial to the spleen [Figure B]. At urgent laparotomy an enlarged infarcted spleen with torsion of its pedicle were found and splenectomy was performed. The boy had an uneventful recovery.

Acute, chronic or intermittent torsion of the spleen is the major complication of an abnormally mobile spleen, the "wandering spleen." The increased mobility of the spleen results from absence or laxity of the supporting ligaments (gastrosplenic and splenorenal ligaments) that normally anchor the spleen in its normal position. This anomaly is quite rare, with a reported incidence of less than 0.5% in several large series of splenectomies. It has been reported to be found mainly in children [1] and in women aged 20–40 years [2]. The wandering spleen may be incidentally detected as an abdominal or pelvic mass. CT findings of a wandering spleen include absence of the spleen in its normal position and its location somewhere else in the abdomen or pelvis.

Symptoms and signs of splenic torsion are quite variable: chronic abdominal discomfort probably due to splenic congestion or pressure from ligaments, intermittent pain presumably due to spontaneous torsion and detorsion, and less often severe abdominal pain from acute torsion and infarction, which produce marked congestion and capsular stretching [1–3]. Physical examination may reveal a tender mass [1].

The diagnosis of a torsioned spleen is usually not considered prior to imaging evaluation. The appearance of torsion on CT has characteristic features: a) the spleen is located in an abnormal position, in the mid-abdomen or pelvis, and


**[A]** Scan at the level of the upper abdomen shows absence of the spleen in its normal position in the left upper quadrant, the stomach occupying its place (L = liver, S = stomach).

**[B]** Post-contrast scan at the level of the mid-abdomen shows the spleen (Sp) located in the left mid-abdomen, caudal to its normal position. The splenic parenchyma fails to enhance after IV contrast material as indication of infarction. A round hyperdense area is seen medial to the spleen (arrow) representing a fresh thrombus in the splenic vessels.

fails to enhance (partially or totally) with IV contrast material as an indication of infarction; b) a circular whorled structure of alternating bands of radiolucency and radiodensity, usually at the splenic hilum, represents the twisted splenic pedicle; and c) a hyperdense intraluminal filling defect in the splenic artery and vein may be seen in acute thrombosis on a pre-contrast scan – a fresh thrombus, and no enhancement of the vessels on a post-contrast scan [1,3,4]. Contrast-enhanced scans in these cases provide information on the viability of the splenic parenchyma. This information is valuable for the surgeon in deciding whether splenopexy rather than splenectomy is an option, especially in young children [1].

With the widespread use of CT in the evaluation of non-specific abdominal pain, the diagnosis is nowadays most often made preoperatively by the radiologist since the CT features of torsion of a wandering spleen are virtually pathognomonic.

## References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