Wandering spleen

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A 19-year old Syrian housewife and mother of 2, presented to the Emergency Room of Riyadh Medical Complex, Riyadh, Kingdom of Saud Arabia, with a 2 week history of left upper quadrant abdominal pain. Pain was dull and associated with vomiting over the same period. Patient also noticed a swelling over the same area, which seemed to change position. A day prior to presentation, she developed fever. She gave a similar history of pain a year earlier for which she was treated in another facility. She was also seen in another facility 6 months prior to confinement with abdominal pain. Pelvic ultrasound at that time noted a mass in the left iliac fossa with an antero-posterior diameter of 7.7 cm. No attempt was made at further investigations in spite of her persistent symptoms. She had no other symptoms referable to other systems. On examination, she was found to have the following vital signs: blood pressure 110/70 mm Hg, pulse rate 88/min, temperature 38.5°C and respiratory rate of 12/min. The only significant finding was in the abdomen in which there was tenderness in the left upper quadrant and a firm spleen was felt up to the umbilicus. There was no rub over the spleen. On re-examination the next day, a tender, firm mass of 8cm x 8cm was felt in the epigastric region. She remained febrile at 38.5°C. The "splenomegaly" felt the previous day was not palpable. Investigations revealed a white blood cell count of 14,000/cu, hemoglobin 123g/liter and platelet count of 149,000/cu. The initial erythrocyte sedimentation rate was 63mm/hour. Her urea, electrolytes and creatinine were within normal range. Apart from an elevated lactate dehydrogenase at 450U/L (Normal range 30 –200U/L), the liver function tests were normal. Ultrasound (US) scan and later a computerized tomogram (CT) of the abdomen revealed moderate amount of fluid in the peritoneal cavity. The splenic area was empty, and a mass of mixed echogenity and an antero-posterior diameter of 7.7cm was evident extending from the epigastrium to the left iliac fossa. Attached to this hilum is a pedicle with a whorled appearance containing fat and blood vessels. In the upper part of the mass is a low attenuation area. **(Figure 1)**. The ultrasonographic and CT findings are consistent with the diagnosis of wandering spleen (WS) complicated by torsion, and partial infarction and liquefaction. At laparotomy, the splenic vessels were found to be full of clots and the spleen infarcted in its anterior aspect. Splenectomy was undertaken, and patient made an uneventful recovery and was discharged on the fifth post-operative day.

Wandering spleen (WS) is an uncommon abnormality, which can be either congenital or acquired. It is due to the abnormalities or absence of the 5 ligaments or peritoneal reflections that fix the spleen to the left upper quadrant. It is rare in children under the age of 10 years where there is no gender difference. Patients are usually females of childbearing age like our patient females outnumber males by 7:1.[1] Although most patients age between 20 and 40 years, cases have been reported in patients ranging from 2-80 years of age. Presentation is variable with most patients remaining asymptomatic. The most frequent symptoms are abdominal pain or an incidental finding of an abdominal or pelvic mass. Patients may, however, present with acute abdomen or chronic recurrent abdominal pain as in our patient. Acute abdomen is as a result of torsion of the long vascular pedicle of the spleen leading to infarction. Other reported presenting features are pancreatitis,[2] upper gastrointestinal bleeding,[3] gastric outlet obstruction, acute urinary retention and as an intra-uterine mass. Since WS is congenital in a number of patients, there are other reported associated defects. These include, eventration of the diaphragm, defect in the mesocolon, and the WS itself being an accessory spleen. Diagnosis can be difficult on clinical grounds and routine investigations are often unhelpful. Thrombocytopenia (and at times pancytopenia) is a reflection of sequestration within the spleen. Imaging techniques are the best means of reaching a diagnosis and evaluating the presence of thrombosis or infarction pre-operatively, or both. Of the 4 readily available modalities (CT, magnetic resonance imaging, nuclear scanning and US), ultrasonography appears to be the least invasive and most effective in reaching a definitive diagnosis.[4]

Treatment is surgical either by splenoplexy or splenectomy. Laparoscopic approach to the management of WS is now considered the "gold standard".[5] It reduces post-operative stay, wound complications, overall morbidity and affords a faster

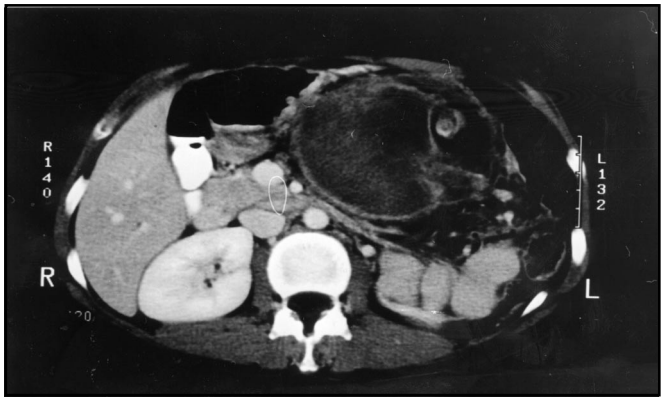

Figure 1 - Computerized tomography scan of the abdomen showing a mass in the left iliac fossa with a hilum and a whorled pedicle and an area of low attenuation.

return to normal activity. Cohen et al[6] reported performing laparoscopic splenoplexy in 175min. and discharging the patient on the first post-operative day. Splenectomy is indicated only when the spleen is found to have been infarcted, there is thrombosis or hypersplenism, or where splenoplexy is technically not feasible. Under such circumstances, patients should receive, pre-operatively, or immediately post-operatively, vaccines against *Pneumococcus, Hemophilus and Meningococcus*. Preservation of the spleen is of course of paramount importance, hence, the need for early diagnosis of this condition to avoid the complications such as hypersplenism, thrombosis of the splenic veins and splenic infarction that may necessitate splenectomy. Our patient underwent surgery 14 days after admission and over one year after the initial onset of her symptoms. This underlines the need for awareness of this potentially dangerous condition by general practitioners, radiologists, physicians and surgeons alike. A missed diagnosis could lead to inappropriate invasive procedures such as a blind or US-guided biopsy.

In conclusion, there is a need for awareness of WS in order to take appropriate and timely steps to avoid serious complications and preserve the spleen.

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