Torsion of a Wandering Spleen: An Unusual Abdominal Catastrophe
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ABSTRACT
Wandering spleen is a rare clinical entity characterised by splenic hypermobility resulting from laxity or maldevelopment of the suspensory gastroplenic, splenorenal, and phrenicocolic ligaments. Diagnosis is quite difficult, especially in children because of the lack of symptoms and signs until splenic torsion have occurred. An array of investigations is possible but US with color Doppler, CT with intravenous contrast and MRI are frequently being used to diagnose wandering spleen with or without torsion. We present a case of 5 years old child with torsion of wandering spleen to highlight the importance of prompt diagnosis and management.


INTRODUCTION
Wandering spleen is characterized by laxity or absence of the supporting splenic ligaments where a long pedicle facilitates abnormal positioning of the spleen outside its native left sub-diaphragmatic location. Wandering spleen predisposes the spleen to torsion and can cause a variety of symptoms from mild intermittent abdominal pain to acute abdominal crisis.1

We present a case of 5 years old child who presented with non-specific abdominal pain and mild gastroenteritis to highlight importance of managing abdominal pain through prompt diagnosis and management to avoid catastrophe.

CASE REPORT
A 5 years old girl child presented with vomiting and mild diarrhea for 3 days. She had a history of mild fever and abdominal pain in the left upper quadrant of the abdomen and of recurrent abdominal pain with vomiting in the last 14 days and was managed as gastroenteritis in a peripheral hospital.

On examination, she was dehydrated and febrile. There was tenderness in the epigastrium and left lower abdomen. A firm and tender mass was also palpable in the left lower abdomen. Her complete blood count was unremarkable except mild thrombocytopenia. Plain X-ray abdomen showed a vague soft tissue shadow in the left lower quadrant of abdomen (Figure 1). Ultrasound of abdomen showed homogenous, mildly enlarged spleen in an abnormally low position located 8 cm below left diaphragm. A CT scan abdomen with intravenous contrast showed the displacement of the spleen below the diaphragm with global splenic ischemia (no contrast enhancement in either arterial or venous phase, Figure 2). Exploratory laparotomy revealed freely floating torted necrotic spleen because of the lack of ligamentous attachment (Figure 3). Splenectomy was performed. Patient's recovery was uneventful and she was discharged on the fifth postoperative day. She was vaccinated against encapsulated organisms and advised long acting penicillin 1.2 million units IM monthly.

DISCUSSION
On a review of large case series of splenectomies, incidence of wandering spleen is reported to be around 0.5%.2 Wandering spleen is more common in females during pregnancy, when it is postulated that hormonal changes in pregnancy result in laxity of the ligaments; and children. Less than 100 paediatric cases have been reported in the literature.2

Wandering spleen may present in different ways. It may be found incidentally as a mass in the abdomen without causing any complaint. It may present with acute or chronic abdominal pain, and or a mass as this patient presented with non-specific abdominal pain and mass abdomen. The former is more likely and is due to torsion and splenic infarction. In a recent review of 238 patients by Soleimani and colleagues, 73% and 67% of cases presented with abdominal pain or an abdominal mass respectively.1

Other complications of wandering spleen include gastrointestinal obstruction secondary to splenic adhesions or a long splenic pedicle, pancreatic necrosis, bleeding from gastric varices and abscess formation.3 For the definitive diagnosis of a wandering spleen, various imaging techniques, including plain radiography, barium enema, scintigraphy, gray-scale sonography, Doppler ultrasonography, CT and angiography have been used.4
Non-invasive imaging procedures such as US, Computed Tomography (CT) scanning and MRI are usually diagnostic. Plain abdominal films, barium enema studies and scintigraphy are often non-specific.\(^5\) Angiography can reveal ectopic spleen location and splenic torsion, but is invasive and not essential for diagnostic purposes.\(^5\) Ultrasound plays an important role and is the selective diagnostic method. According to Danaci et al., the sonographic appearance of the ectopic spleen in the presence of a homogenous hypoechoic mass and empty splenic area, and CT showing a homogenous, unenhanced mass is diagnostic for a wandering torted spleen.\(^6\) Similar findings were detected on US and CT as in this case. Doppler ultrasound has proven to be a useful tool indicating the presence or absence of blood flow in the splenic pedicle.\(^6\) MRI, a reasonable alternative to CT, confirms the diagnosis of a complicated wandering spleen.\(^6\) Although rare, a torted wandering spleen should be included in the differential diagnosis of patients presenting with non-specific abdominal pain and incidentally found mass abdomen. The spleen should always be looked for during the abdominal ultrasound examination, and its absence in the left upper quadrant should alert the clinician to the possibility of wandering spleen. If there is suspicion of splenic torsion on ultrasonography then a CT scan with IV contrast should be carried out.

**REFERENCES**