

CASE REPORT**WANDERING SPLEEN WITH TORSION: A RARE CAUSE ACUTE ABDOMEN IN CHILDREN**Tesfaye Kebede, MD¹*, Abebe Habtamu, MD¹, Abrehet Zeray, MD¹, Hana Getachew, MD¹**ABSTRACT**

Torsion of wandering spleen is a major complication and also a potentially fatal surgical emergency case, and its correct and early identification continues to represent a challenge especially in children. Because of nonspecific symptoms, clinical diagnosis can be difficult; hence, imaging plays an important role on the initial diagnosis of the condition. We present a case of torsion of wandering spleen in a 10 years old male child. Preoperative diagnosis was made on the basis of ultrasonography and computed tomography, which was later confirmed on surgery.

INTRODUCTION

A wandering spleen, also known as “ectopic”, “proptotic”, “floating”, “displaced” and “aberrant” spleen is defined as a spleen which is hypermobile resulting from maldevelopment of its ligament supports and also due to laxity of the supporting ligaments too. The acquired variant is more common in females after the age of 10 years, and it has been suggested that pregnancy contributes to the laxity of supporting ligaments by the direct effect of estrogen.

Patients with wandering spleen are usually asymptomatic but may present with a mobile abdominal mass due to mobility of the spleen which may be located outside the LUQ. Unless it is complicated with torsion, clinical diagnosis of wandering spleen is difficult. Due to the rarity of the condition, torsion of wandering spleen would not be included in the clinical differentials of patients with acute abdomen, so imaging plays an important role in the diagnosis of asymptomatic cases and those complicated with torsion.

CASE REPORT

A 10-years-old boy who was admitted to pediatric ward with a 2 weeks history of acute abdominal symptoms. He was having abdominal swelling around the mid abdomen for the previous one and half year with progressive increase in size and discomfort especially with movement. Other than repeated malarial attack, there was no significant past medical or surgical history. On general examination, the abdomen was asymmetric with a large mass over the umbilical area measuring 17X12 cm, mildly tender, firm, non-pulsatile,

Table 1: hematologic and serologic test results of a 10year old child with torsion wandering.

Hematology		
HCT		31.3%
Hbg		11.2g/dl
Mcv		78.9fl
Mch		22.3pg
WBC		9.13 x 10 ³ (N=50.2 & L = 29.2)
Platelet		776 x 10 ³
Serology		
PICT		Non-reactive
LFT		Normal
RFT		Normal
SERUM ELECTROLYTES		Normal
SERUM LDH		939u/l

Abdominal ultrasonography revealed absent spleen in the LUQ except small accessory spleen. There was a midline oval abdominal mass measured 17cm in length extending to the pelvis having a homogeneous echo pattern with internal areas of patchy hypo echogenicity.

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Color and spectral Doppler showed complete absence of flow in the mass (Figure 1). Radiological diagnosis of splenic infarct secondary to torsion of wandering spleen was made. The patient was kept in emergency for another ten days because refereeing physicians were not convinced with the radiological diagnosis, since torsed wandering spleen being a rare cause of acute abdomen.

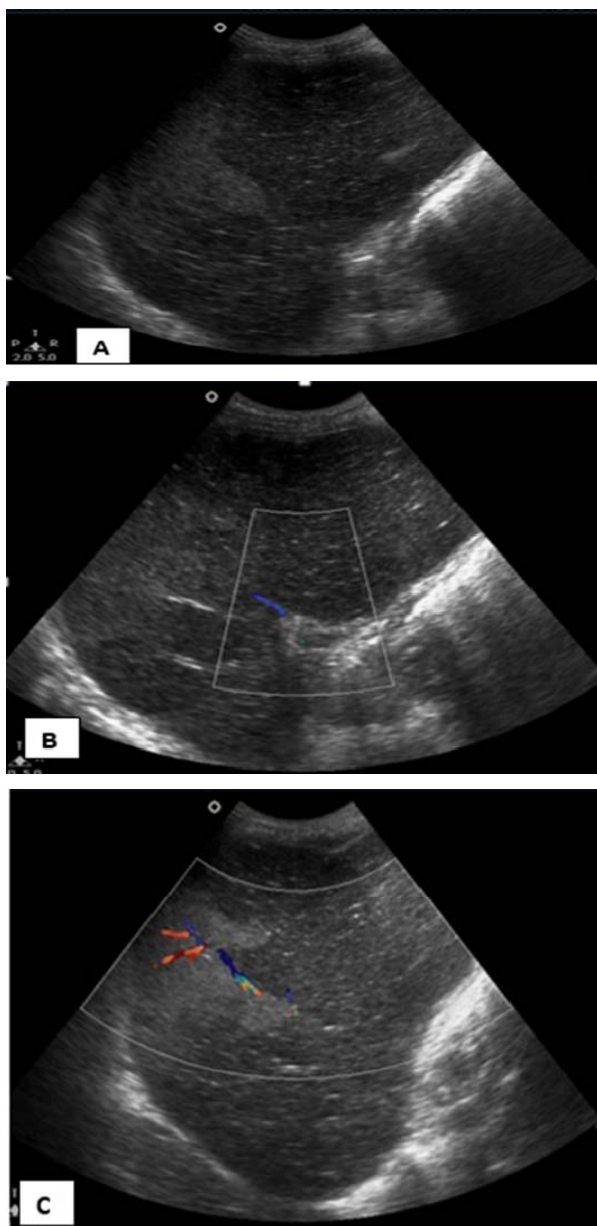


Figure 1: transabdominal ultrasound of a patient with acute abdomen showing heterogeneous predominantly hypoechoic spleen in the mid abdomen (a) with no parenchymal flow on color Doppler interrogation (b & c).

Abdominal CT was then requested and done which also revealed absence of the normal spleen in the left upper quadrant with the spleen markedly enlarged and occupying the mid abdomen measuring 17cm in length with internal areas of non-enhancement confirming the diagnosis of wandering spleen with torsion and splenic infarction (Figure 2).

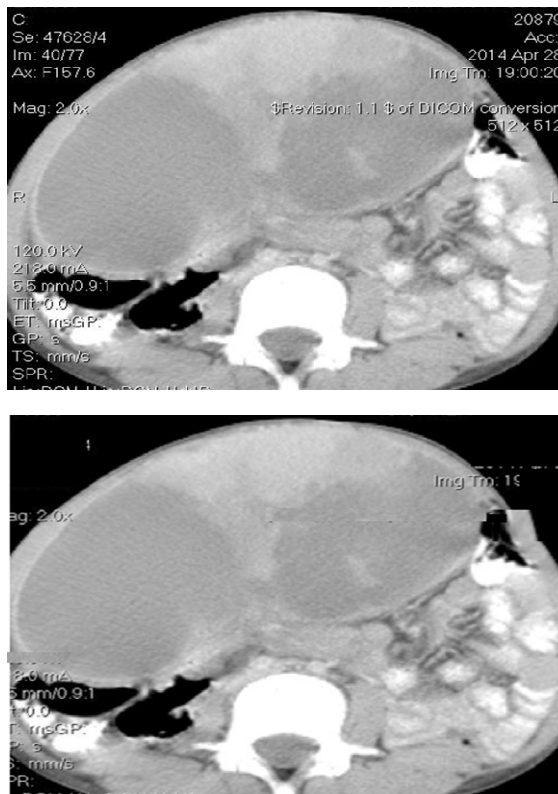


Figure 2: heterogeneously and predominantly peripheral enhancing midline abdominal mass and absent spleen in the LUQ confirming infarcted wandering spleen.

Finally decision was made to surgically intervene which revealed infarcted spleen with long and twisted pedicle. There is strong adhesion between the spleen, liver, omentum, large and small bowel loops. Because of the infarction, splenectomy was performed. The postoperative period was uneventful so the patient was discharged.

DISCUSSION

We presented a rare cause of acute abdomen, torsioned wandering spleen, which was initially diagnosed with imaging and managed with splenec-

Due to the rarity of the condition, clinical suspicion is difficult and either imaging or surgery will establish the diagnosis in most cases.

Even if it may sometimes be an incidental finding or asymptomatic, most patients with wandering spleen present with intermittent abdominal pain and mass. (1). Due to excessive mobility of the spleen, either due to congenital absence of the supporting ligaments or due to acquired laxity, spleen may go out of its fossa in the LUQ into the rest of the abdomen and pelvis which can present as an abdominal mass. The acquired form that occurs in conditions that weaken the supporting ligaments like in pregnancy

The age distribution for wandering spleens is variable. There appears that in the first year of life there is a male predominance but after the first year there is female predominance. Which can be explained by the laxity of ligaments due to female hormonal effects of pregnancy (2).

Wandering may also be symptomatic. The most common presenting complaint at all age groups is recurrent abdominal pain, more common in adults. In those under the age of one year, abdominal mass is the predominant findings. (2). It may present as mass anywhere in the abdomen including the pelvis (3, 4). The most common complication encountered in wandering spleen is torsion as in our case, which may result in splenic infarction and necrosis. Most patients with torsion of a wandering spleen present with acute abdomen. When present with acute abdomen, it may sometimes mimic other causes of acute abdomen clinically like appendicitis (5). The mobile torsed spleen may also compress other abdominal structures like bowel and ureters with presentation mimicking bowel obstruction and / or hydronephrosis (2).

Due to lack of accurate clinical diagnosis, imaging is an important non-invasive tool which establishes the diagnosis in most cases. Most patients undergo abdominal ultrasound as the initial mode of evaluation which most of the time suggests the diagnosis, which is true also for our case. Doppler ultrasound may also show the torsed splenic vessels and may also confirm the diagnosis of infarction. Surgical intervention can be done without the need for additional imaging (6). Due to the rarity of the condition, the finding of abdominal mass both clinically and sonographically may be subjected to other unnecessary invasive diagnostic means like fine needle aspiration cytology (FNAC).

Sometimes patients may also be misdiagnosed as having lymphoma even after ultrasound evaluation which mistakenly consider the abnormally located spleen as a an abdominal mass. This may also lead to initiation of unnecessary medical treatments(7).

Ultrasound alone with the use of Doppler interrogation may establish the diagnosis of splenic torsion; which in such cases rapid intervention can be done without the need for other imaging evaluation. When ultrasound cannot give a specific diagnosis or if there is a need to confirm the diagnosis, both CT and MRI can be employed which may show absence of spleen in its fossa and spleen located in an abnormal position (4, 8). Other CT findings include enlarged low attenuating spleen which show absent or minimal heterogeneous contrast enhancement and enhanced splenic capsule compared with the parenchyma as well as whirling of the splenic vessels (9). Stranding of the fat at the splenic hilum near the whirling of the splenic vessels is also seen which possibly represents congestion.

The current management wandering spleen is surgical with either splenopexy or splenectomy. When there is complication like torsion and infarction, immediate surgical intervention and splenectomy is the standard of treatment (1)

Conclusion

Confident diagnosis of wandering spleen with torsion can be made with ultrasound and radiologists should keep in mind the possibility in pediatric patients presented with acute abdomen where ultrasound revealed the spleen outside the left upper quadrant of the abdomen.

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Competing Interest

The authors declare that this manuscript was approved by all authors in its current form and that no competing interest exists.

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