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Case Report

A Child with Acute Abdomen Due to Torsion of a Wandering Spleen

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Abstract

Wandering spleen is a rare clinical entity characterized by splenic hypermotility resulting from laxity or maldevelopment of the suspensory splenic ligaments. The spleen can "wander" or migrate into various positions within the abdomen. Clinical presentation of a wandering spleen is variable, ranging from an asymptomatic, incidentally detected, abdominal or pelvic mass to an acute abdomen secondary to splenic torsion. Diagnosis in an emergency setting can be challenging as it is a rare cause of acute abdomen and does not determine any symptoms until splenic torsion has occurred. We present a case of pediatric ectopic, torsed spleen presenting as acute abdomen, effectively managed by splenectomy

.**Keywords**: Wandering Spleen; Torsion; Children

Introduction

Wandering spleen is defined as a rare condition in which spleen is not located in the normal abdominal quadrant, because of the absence or loosening of the ligaments fixing the spleen. This defect results from malformation in the structure, or elasticity, of the ligaments that normally fix the spleen to the region below the left dome of the diaphragm [1]. It is a very rare entity, with an incidence of <0.2%, more frequently diagnosed in children younger than 1 year of age and in women during the third decade of life, in reproductive age, probably for the effect of female sex hormones [2]. As a result, the spleen is predisposed to hilar torsion and subsequent infarction. The clinical presentation is variable and can range from an incidental finding in asymptomatic patients with lower abdominal mass, to an acute abdomen following splenic torsion. Occasionally, patients with a wandering spleen can have chronic or intermittent abdominal pain because of partial torsion and spontaneous detorsion of the spleen [3]. The major complication related to splenic torsion is due to venous stasis and congestion, and splenic vein thrombosis culminating in impaired arterial supply leading to splenic infarction and necrosis. Laboratory tests are usually non-specific but may reveal elevated inflammatory markers and evidence of hypersplenism or functional asplenia [4]. We report a case of a child presenting with acute abdomen due to an ectopic, torsed spleen, effectively managed by splenectomy.

Case details

A 2-year-old female presented to Pediatric Emergency Unit after one day of abdominal pain and vomiting (5 episods) without fever or diarrhea. Her past medical history was negligible. She appeared stable, had no constipation, no urinary symptoms, nor history of recurrent abdominal pain or trauma. On physical examination, she presented soft abdomen with no pain and normal vital signs. The remaining examination was normal. After administration of ondansentron and clinical improvement in few hours of observation, she was discharged with oral rehydration solution and probiotics. The day after, she returned to our observation because of deterioratiorating clinical conditions, persistent vomiting, worsening of abdominal pain, and signs of intestinal obstrution. Comparison to the day before, the child appeared unwell with a marked diffuse tenderness and guarding. Laboratory parameters revealed mildly increased platelet count (506x10^3/µl, normal value 140.0-440.0), leukocytosis with neutrophilia (white blood cell count 19x10^3/µl, neutrophils 73%), increased C-reactive protein (71.5 mg/L, normal value <5.0) and high levels of serum creatine kinase of 1387 U/L. Other biochemical parameters were normal. Ultrasound exam (US) of the abdomen revealed the presence of a mild-left flank abdominal solid mass (80x61 mm) characterized by hyperecogenic appearence and no vascular flow signal at doppler imaging, in keeping with ectopic spleen torsion (Figure 1). This strongly suggested a diagnosis of wandering spleen torsion so surgery treatment was immediately performed. Urgent laparotomy showed a completely free floating and infarcted spleen, confirming the ultrasonographic diagnosis. Splenectomy was the only possible treatment. She had no surgical complications with an uneventful post-operative period- The patient remained asymptomatic during the following re-evaluation in consultation.

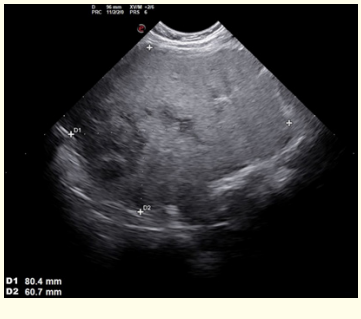

Figure 1: Ultrasound appearance of the wandering spleen. Structure inhomogeneity suggest areas of infarction.

Discussion

Diagnosis of a wandering spleen is a challenge for physicians. Its torsion can be misdiagnosed in first stages, until a surgical emergency occures. US findings are not always unequivocal. Computed tomography and magnetic resonance exams are usually performed in order to confirm the suspicion of torsion of a wandering spleen [5]. In our case diagnosis was strongly suggested by US. We did not performed other instrumental exams because of the worsening general conditions and because of the suggestive doppler-US revealing no vascular signal in the torsed pedicle.

It has been reported that wandering spleen may be associated with some conditions as enlargement or absence of kidney, Hodgkin's disease, Gaucher disease or other pathologies leading to an heavy spleen and abdominal laxity [6]. In our case no concomitant disease was found. The patient presented good clinical condition and soft abdomen at the first evaluation, with resolved vomiting after antiemetic administration in the Emenrgency Unit. This may be explained by a spontaneous reducible torsion of spleen. Subsequent irreducibile torsion produced a progressive reduction of arterial supply, with acute ischemia and necrosis of the spleen.

Laboratory exams are usually non specifics. In some cases they revealed signs of hypersplenism of functional asplenia [7]. In our case we found only leukocytosis and a moderate increase of inflammatory markers.

Operative management of a splenic torsion can be detorsion with splenopexy or splenectomy according to tyhe grade of pedicle torsion, evidence of infarction or thrombosis [8]. Splenectomy. A promt surgery can prevent spleen infarction [9]. Splenic preservation is highly recommended in very young patients, who are at particular risk for post-splenectomy sepsis [10]. In our patient, it was not possible to preserve the spleen becouse of advanced organ suffering.

Conclusion

Torsion of a wandering spleen is a condition rarely diagnosed based only on clinical findings, because of nonspecific symptoms. Its prompt diagnosis is mandatory in order to prevent life-threatening complications. When an infaction of the spleen occurs, splenectomy is the only possible treatment.

Patient Consent

Consent was obtained by patient's parents.

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