Case Report

Torsion of a Wandering Spleen Managed Conservatively: Rare and Interesting

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Wandering spleen is a rare pathology. A 2-year-old child with abdominal pain was diagnosed to have a torted, avascular wandering spleen. On conservative management, she remains well with no radiological evidence of the spleen. Splenic torsion usually warrants surgery. Nonoperative management in selected cases allows the natural process of autosplenectomy.

Keywords: Autosplenectomy, splenic torsion, wandering spleen

INTRODUCTION

Wandering spleen, first described by Johannes Van Horne, is reported in <0.5% of splenectomies.[1] Approximately 500 cases have been reported in the English literature, with 14 cases reported between 1984 and 2009.[2] Congenital or acquired laxity or absence of the splenic ligaments allows splenic mobility.[3] Splenic torsion typically occurs with a wandering spleen, complicating 65% of pediatric cases, and is usually managed operatively. We present a case of splenic torsion with an avascular spleen managed conservatively, which has been reported only once before this to the best of our knowledge.

CASE REPORT

A 2-year-old female child presented to a country hospital with intermittent abdominal pain for 4 days. As the pain did not subside for 7 days and was associated with the onset of vomiting and decreased appetite, she was transferred to the referral children’s hospital.

The child was tachycardic on arrival at the referral hospital with generalized abdominal tenderness with a hemoglobin of 109 g/L, raised C-reactive protein of 62 mg/L, white cell count of 22.60 × 10^9/L, thrombocytosis of 584 × 10^9/L, neutrophilia of 16.36 × 10^9/L, and monocytosis of 3.25 × 10^9/L. An X-ray showed absence of the splenic shadow [Figure 1]. An enlarged spleen lying transversely in the central abdomen just above the urinary bladder was seen on ultrasonography along with multiple hypoechoic areas of the splenic parenchyma, a twisted pedicle, and no splenic vascularity on color flow imaging.

A contrast-enhanced computed tomography (CT) scan showed edematous, nonenhancing splenic vessel and spleen lying centrally, showing a whorled appearance of the vessels [Figure 2].

Considering the long history of complaints and the radiological observations, the patient was managed conservatively and remained in the hospital for 7 days. Due to the functional asplenia, she received splenectomy immunizations and amoxicillin prophylaxis.

On review at 1 month, she is asymptomatic with an unremarkable abdominal examination. An ultrasound at this review showed an avascular spleen [Figure 3]. The blood picture showed a stable hemoglobin and thrombocytosis (623 × 10^9/L). The blood film showed the presence of Howell–Jolly bodies, consistent with the hyposplenism.

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On 1-year follow-up, the child remains well. Normal blood investigations showed occasional Howell–Jolly bodies. Ultrasonography now cannot identify the avascular spleen.

**Discussion**

Approximately 500 cases of wandering spleen have been reported in the English literature, with 14 cases reported between 1984 and 2009.[2]

Congenital or acquired laxity or absence of the splenic ligaments allows splenic mobility.[3] Congenital absence is due to embryologic failure of fusion between the dorsal mesogastrium and the posterior abdominal wall.[4] This splenic mobility predisposes to splenic torsion on the elongated vascular pedicle.[3] Acquired laxity of the same ligaments can occur due to hormonal changes, multiparity, hematological disorders, or splenomegaly.[3]

Wandering spleen has a bimodal distribution, with a majority of cases being reported in the first decade of life, especially the 1st year of life and the rest in the third and fourth decades.[5]

Splenic torsion typically occurs with a wandering spleen, complicating 65% of pediatric cases, but has been reported with polysplenia and congenital diaphragmatic hernia.[5]

Splenic torsion in children has no specific signs, but may present as an acute abdomen due to hemorrhagic infarction and should be included as a differential diagnosis.[3]

Carswell’s classic findings included a firm, ovoid, mobile abdominal mass, with pain being elicited when the mass was moved and a resonance on percussion in the left upper abdomen.[6] Occasionally, patients may have chronic intermittent abdominal pain from torsion and detorsion of the spleen.[4]

CT findings include the spleen in an abnormal position, nonenhancement of splenic parenchyma, and the “whirl sign,” which is a distinctive pattern of alternating radiodensities within a thickened, hyperdense splenic pedicle indicating a torted splenic pedicle with intermingled fat.[5]

Conventionally, treatment of splenic torsion has been splenopexy or splenectomy.[3] If diagnosed early, a splenopexy restores splenic perfusion.[3]

If a wandering spleen is identified, a preventive splenopexy is recommended.[5]

A 60% incidence splenic ischemia was, however, reported in a multicentric study following mesh splenopexy.[7,8]
In the setting of splenectomy or complete splenic avascularity, patients should receive prophylactic antibiotics and encapsulated bacteria vaccinations.\cite{9}

Historic data have suggested a high rate of morbidity in nonoperative management of an avascular spleen following splenic torsion due to sepsis, splenic rupture, and infarction.\cite{10} However, recently, Sheikh et al. reported nonoperative management of torted, completely infarcted wandering spleen with no acute symptoms.\cite{10}

We suggest that in a child with a completely infarcted spleen and a clinically stable picture, nonoperative management is an option.\cite{10}

Successful nonoperative management avoids surgery and allows for autosplenectomy.\cite{10}

Literature has not essentially looked at the nonoperative management of wandering splenic torsion, but in a study, 103 of 190 patients with acute splenic sequestration crisis underwent successful conservative management.\cite{7}

The authors stress that surgery is the therapy of choice in children with splenic torsion with or without infarction. Nonoperative management with close observation and a low threshold for operative intervention can be extended to a subset of patients who have delayed diagnosis and a completely infarcted spleen.

**Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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**Conflicts of interest**

There are no conflicts of interest.

**REFERENCES**

1. Ahmadi H, Tehrani MM. A rare case of splenic torsion with sigmoid volvulus in a 14-year-old girl. Acta Med Iran 2016;54:72-5.
2. Yılmaz Ö, Bayrak V, Daştan E, Kotan Ç. Torsion of wandering spleen as a rare reason for acute abdomen: A presentation of two cases. Ulus Cerrahi Derg 2013;29:200-2.
3. Alshukry SM. Splenic torsion. Oman Med J 2008;23:287-8.
4. Samarasinghe RN, Protyniak B, Bethel CA. Wandering spleen and splenic torsion associated with upper respiratory tract infection. J Pediatr Surg Case Rep 2013;1:129-31.
5. Tran S, Grossman E, Barsness KA. Prune belly syndrome, splenic torsion, and malrotation: A case report. J Pediatr Surg 2013;48:e41-3.
6. El Bouhaddouti H, Lamrani J, Louchi A, El Yousfi M, Aqodad N, Ibrahimi A, et al. Torsion of a wandering spleen. Saudi J Gastroenterol 2010;16:288-91.
7. Brousse V, Elie C, Benkerrou M, Odièvre MH, Lesprit E, Bernaudin F, et al. Acute splenic sequestration crisis in sickle cell disease: Cohort study of 190 paediatric patients. Br J Haematol 2012;156:643-8.
8. Fiquet-Francois C, Belouadah M, Ludot H, Defauw B, Mcheik JN, Bonnet JP, et al. Wandering spleen in children: Multicenter retrospective study. J Pediatr Surg 2010;45:1519-24.
9. Kargl S, Sekyra P, Pumberger W. Acute abdomen due to splenic torsion. Arch Dis Child 2013;98:537.
10. Sheikh F, Kim ME, Zamora IJ, Olutoye OO. Non-operative management of a rare diagnosis of splenic torsion in a child with a history of giant omphalocele: A case report and literature review. Patient Saf Surg 2014;8:12.