

ACUTE ABDOMEN- TORSION OF A WANDERING SPLEEN - TO MIND THE RARE

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PRESENTATION OF CASE

Wandering or ectopic spleen is a spleen, which is situated outside its normal location with fewer than 500 cases reported in the literature. The incidence of torsion in a wandering spleen is estimated to be less than 0.2%.¹ Torsion of a wandering spleen is an important rare differential diagnosis, while dealing with an acute abdomen, if overlooked may result in high mortality.² Surgical resection of the infarcted spleen produces prompt recovery, but preoperative diagnosis in emergency situations is very challenging despite of modern imaging techniques.³ Herein, we report a rare case where the diagnosis of acute torsion of a wandering spleen was clinched preoperatively, managed successfully and uneventfully.

A 29-year-old nulliparous lady presented to the emergency department with an acute onset left-sided abdominal pain and vomiting for few hours duration. Pain was severe and continuous over the left lumbar and periumbilical area. She had 4 episodes of non-bloody and non-bilious vomiting. She gave no history of any trauma or fall prior to this episode. No significant past medical or surgical history. Physical examination revealed an obese lady (body mass index - 26.1) who was febrile (99.8°F), slightly dehydrated and anaemic with a blood pressure of 110/70 mmHg and pulse rate of 96 beats per minute. Clinical examination revealed a nondistended abdomen with diffuse tenderness and guarding along with a large firm, tender, reniform mass palpable in the left lumbar region measuring around 7 x 10 cm in size, able to get above and below and with restricted mobility. The mass was dull on percussion. Review of other systems were unremarkable.

Laboratory investigations showed leucocytosis with a count of $16.7 \times 10^9/L$ predominantly neutrophilia (88%), elevated erythrocyte sedimentation rate levels (41 mm/hour) along with low haemoglobin (10.3 g/dL) and haematocrit (30.8%) values. She was also found to have elevated C-reactive protein levels (11.8 mg/dL). Urine

analysis and erect x-ray of abdomen was normal. Abdominal ultrasound revealed a hyperechoic ovoid low lying mass below and anterior to left kidney measuring about 5.1 x 6.3 x 10.8 cm, which was suggestive of an ectopic spleen. Axial CT of abdomen including both plain and contrast cuts showed a heterogeneous splenic hilar fat with vessels appearing twisted and spleen showing minimal enhancement, which is highly suspicious of splenic infarction. She was resuscitated with intravenous fluids, analgesics, antiemetics and on prophylactic antibiotics in view of leucocytosis and elevated acute phase reactants.

An emergency laparotomy using a superior midline incision was proceeded. Intraoperatively, a rounded violet mass was identified without ligamentous attachments seen in the left lumbar region twisted four times at the hilum in the region of vascular pedicle suggestive of torsion of wandering spleen with complete infarction (Figure 1). After adhesiolysis, the pedicle was detorsed. Clamps were applied to the stump, ligated and splenectomy was done. A single small splenic nodule - splenunculi was found in the mesentery (Figure 2) as an incidental finding. Haemostasis was achieved and other peritoneal structures were found to be normal. Saline wash was given and a drain was kept. Fascia and deeper layers were closed in layers.

Her postoperative recovery was good and was discharged on the 5th postoperative day. The patient was given vaccinations against Pneumococcus and Haemophilus influenza and meningococcus in about a week after the discharge. The histology of the resected spleen revealed congested splenic tissue with extensive haemorrhage and few lymphoid aggregates with no evidence of malignancy or fibrosis or granuloma in both ectopic and accessory spleen. Her postoperative peripheral blood smear and laboratory values showed reactive thrombocytosis for which she was advised to take long-term aspirin.

CLINICAL DIAGNOSIS

Acute Abdomen- Torsion of the wandering spleen.

DIFFERENTIAL DIAGNOSIS

- Perforated peptic ulcer.
- Acute pancreatitis.
- Pancreatic abscess.
- Pyelonephritis.
- Splenic and paracolic abscess.
- Intussusception.

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PATHOLOGICAL DISCUSSION

Wandering spleen, which is an extremely rare clinical entity, can either be congenital or acquired in origin. Females especially the ones within childbearing age group (70-80%) predominates with ratio of 1:7 when compared to males.⁴ In adults, especially women, splenic torsion can be attributed to ligament laxity, trauma, splenomegaly and hormonal effects of pregnancy.⁵ Clinical presentation maybe nonspecific with a mass abdomen and recurrent abdominal pain due to torsion and detorsion of the splenic pedicle or may have an acute presentation due to torsion causing vascular compromise.⁶ In a literature review, about 67% of the cases have been reported with an abdominal mass,⁷ which is a painful mobile mass in the left lower abdomen with limited mobility.

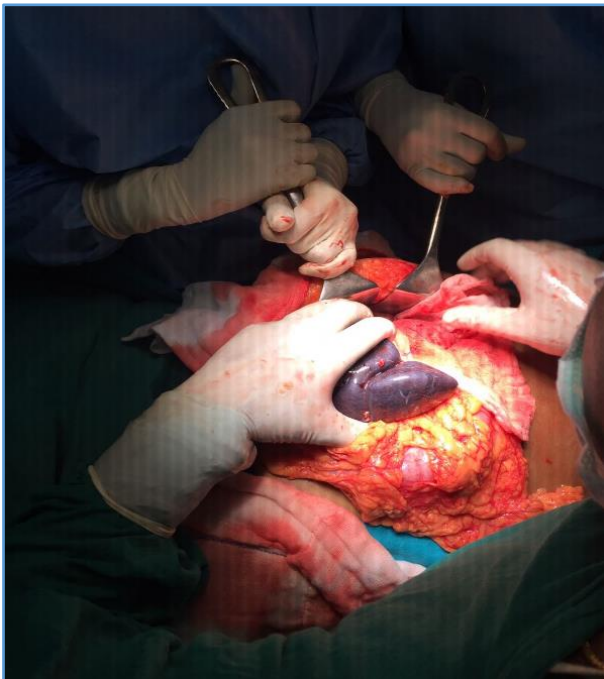


Figure 1. Intraoperative Picture of Completely Infarcted Wandering Spleen



Figure 2. Resected Specimen of Splenunculi from the Mesentery

DISCUSSION OF MANAGEMENT

While discussing about the management, imaging studies should be considered as the cornerstone for diagnosing this condition. Abdominal ultrasound is reported to have an accuracy up to 52% in clinching this diagnosis.⁸ It confirms

the absence of spleen in its location, detects ectopic splenic tissue and with Doppler, splenic vessels and parenchyma can be evaluated. CT scan including intravenous contrast cuts has also been cited as one of the preferred investigation.⁸ But, the pitfall lies in the failure to demonstrate an ectopic spleen in a supine position as the wandering spleen maybe still located in its normal position, while lying supine, both in ultrasound and CT. To prevent this occurrence, repeated sonography is ideally advised in all possible postures.⁸ Nowadays, Multi-Detector row CT (MDCT) with angiography and MRI can also be used to evaluate the vascular status, though not possible in emergency situations. The classical finding in a contrast-enhanced CT include the appearance of twisted pedicle seen as a 'whirlpool' sign.⁵ The treatment of choice for wandering spleen is either splenectomy or splenopexy. Laparoscopic splenopexy with or without the use of absorbable mesh is the preferred choice if the spleen is viable. While splenectomy is indicated in the event of acute torsion of wandering spleen with infarction, secondary hypersplenism, functional asplenia and in case of suspicion of any malignancy.⁶ As it is here, torsion is the most common complication of wandering spleen, which can either lead to complete or partial infarction of the spleen. Other complications include pancreatic tail necrosis, splenic abscess, bleeding from gastric varices due to splenic venous hypertension, intestinal and gastric outlet obstruction and urinary symptoms due to compression of ureter or urinary bladder.⁹

Torsion of a wandering spleen is an extremely rare and difficult diagnostic dilemma when a patient presents with acute abdomen. Early diagnosis of acute torsion of wandering spleen, through apt use of imaging modalities along with familiarity about this rare condition helps to avoid the irreversible ischaemic changes in the splenic tissue and thereby preserve its viability and function. Though, preoperative diagnosis is hypothetical, timely surgical intervention is essential for definitive diagnosis and treatment.

FINAL DIAGNOSIS

Torsion of the wandering spleen.

REFERENCES

- [1] Sharma A, Salerno G. A torted wandering spleen: a case report. *J Med Case Rep* 2014;8:133.
- [2] Desai DC, Hebra A, Davidoff AM, et al. Wandering spleen: a challenging diagnosis. *South Med J* 1997;90(4):439-443.
- [3] Grinbaum R, Zamir O, Fields S, et al. Torsion of an accessory spleen. *Abdom Imaging* 2006;31(1):110-112.
- [4] Qazi SA, Mirza SM, Muhammad AM, et al. Wandering spleen. *Saudi J Gastroenterol* 2004;10(1):1-7.
- [5] Peitgen K, Schweden K. Management of intermittent splenic torsion ("wandering spleen"): a review. *Eur J Surg* 1995;161(1):49-52.

- [6] Nwashilli JN, Ezeokenwa MO, Ukwuoma JK. Wandering spleen causing recurrent abdominal pain. Niger J Surg Sci 2015;25(2):37-40.
- [7] Soleimani M, Mehrabi A, Kashfi A, et al. Surgical treatment of patients with wandering spleen: report of six cases with review of the literature. Surg Today 2007;37(3):261-269.
- [8] Karmazyn B, Steinberg R, Gayer G, et al. Wandering spleen-the challenge of ultrasound diagnosis: report of 7 cases. J Clin Ultrasound 2005;33(9):433-438.
- [9] Safioleas MC, Stamatakos MC, Diab AI, et al. Wandering spleen with torsion of the pedicle. Saudi Med J 2007;28(1):135-136.