ISSN: 2581 – 3633
PubMed - National Library of Medicine - ID: 101745081

International Journal of Medical Science and Advanced Clinical Research (IJMACR)

Available Online at:www.ijmacr.com

Volume – 8, Issue – 4, August - 2025, Page No.: 185 – 188

Wandering Infarct Spleen: A Brain Teaser: A Rare Case Report

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How to citation this article: Dr. (Major) Ramesh Das, Dr. Om Prakash, Dr. M.T.S. Sri Vaishnavi, "Wandering Infarct Spleen: A Brain Teaser: A Rare Case Report", IJMACR- August - 2025, Volume – 8, Issue - 4, P. No. 185 – 188.

Type of Publication: Case Report

Conflicts of Interest: Nil

Abstract

Background: Wandering spleen is a very rare condition and has an incidence of less than 0. 2%. We discuss the case of a 37 year old gentleman who came with pain in abdomen and abdominal distention was diagnosed with ectopic spleen and was successfully treated with resuscitation, explorative laparotomy and splenectomy.

Case presentation: Patient came with complaints of generalised pain in abdomen for about 3 months. Patient also complained of abdominal distention for the past 20 days. CT of abdomen and thorax was done which showed large left hemi diaphragmatic eventration with twisting of mesentry and malrotation of bowel loops with mediastinum pushed on right side. Due to prolonged history and status of the patient explorative laparotomy with splenectomy was done to stabilise the patient. Post operatively patient was shifted to HDU in view of hemodynamic monitoring. In view of improving condition, he was shifted to ward. His vitals were monitored throughout the hospital stay. Numerous lab test was done to assess the patient. Patient was discharged in hemodynamically stable state.

Conclusion: Patient was treated successfully with exploratory laparotomy and splenectomy which was lifesaving procedure.

Keywords: Wandering infarct spleen, Torsion, Splenectomy

Introduction

Wandering spleen is a rare clinical entity which is characterised by hypermobility of spleen that results from elongation or maldevelopment of the spleen's suspensory ligaments. It can present as an asymptomatic, palpable abdominal mass or with acute, chronic, or intermittent symptoms due to torsion of the wandering

spleen. Due to rarity, vague and wide range of presentation, it is a diagnostic and therapeutic challenge for the clinician. The disease does not have any genetic background but can either be congenital or acquired [1]. The aetiology is the absence, malformation or hyperlaxity of one or more splenic ligaments which holds the spleen static in the left hypochondrium [2]. Splenic torsion may be misdiagnosed as acute cholecystitis, appendicitis, gastric haemorrhage, intestinal obstruction, colon cancer, urine retention, and torsed ovarian cyst. [3,4]

Plain x-ray, doppler ultrasonography, computerized tomography (CT), magnetic resonance imaging(MRI), scintigraphy, and splenic angiogram are very helpful in diagnosis [5,6,7]. Diagnosing it timely plays an important role to save the spleen. Surgery is the gold standard treatment for ectopic spleen. The choice is splenopexy when there is no infarction, splenomegaly or hypersplenism, and splenectomy when any of these complications are present [8].

Case Presentation

A 37-year gentleman who is a farmer by occupation had presented to OPD with complains of generalised pain in abdomen for the past 3 months and abdominal distention for the past 20 days which was progressive and not relieved on medication. He showed at a near hospital where Chest X Ray and CT was done and primary treatment was given. Patient was referred to our hospital for further management.

Chest X Ray showed-

1. Herniation of bowel loops through the left diaphragmatic defect into the left thoracic cavity s/o of left diaphragmatic hernia.
2. Trachea and mediastinal shift on the right side.
3. Diffuse scoliosis of thoracic vertebrae.

CT of thorax + abdomen + pelvis report–

1. Herniation of bowel loops seen in left hemidiaphragm pushing the heart- likely ? left diaphragmatic hernia.
2. Wandering enlarged spleen with twisting of pedicle and adjoining mesentery.
3. Ill defined hypodense area in periphery of spleen – likely infarct.
4. Surrounding inflammatory changes seen.

On Examination

Patient was afebrile, BP- 150/100 mm of Hg, Pulse – 136/min, RR-26/min, SpO2- 95%. No signs of pallor, clubbing, icterus, cyanosis, edema was seen. Patient had toxic features.

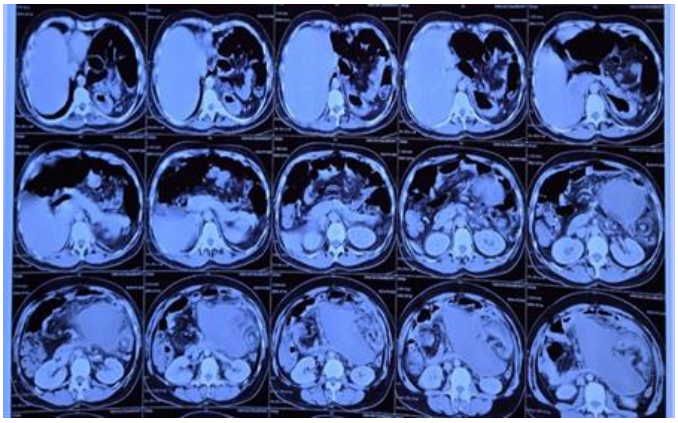
Lab Reports

Haemoglobin was 10.9 gm/dl TLC- 25.5 Platelet count- 5.5 Lakh/cmm with PTINR-1.60.

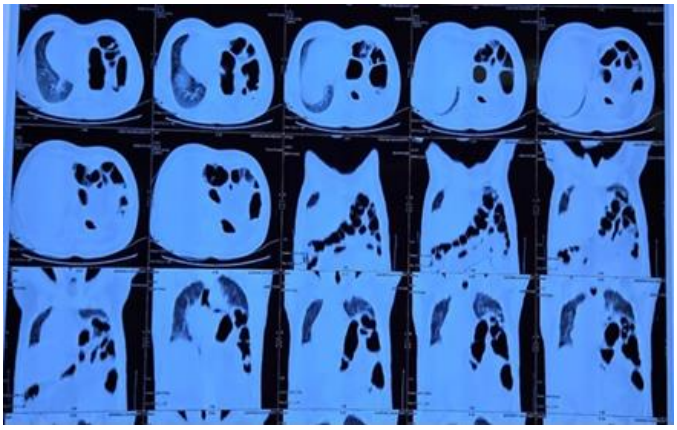
Liver function test was within normal limits.

Renal function tests showed Urea-45.9, creatinine- 0.67 mg/dl, Sodium- 137 mmol/l, Potassium- 3.52 mmol/l

Figure 1: CT scan films showing herniation of bowel loops in thorax and ectopic spleen.



Wandering enlarged spleen with twisting of pedicle and adjoining mesentery with Ill-defined hypodense area in periphery of spleen – likely infarct.



Herniation of bowel loops seen in left hemidiaphragm and pushing the heart on right side.

Figure 2: Operative procedure with Specimen of spleen

Operative Procedure

Emergency explorative laparotomy was performed immediately under general anaesthesia. Spleen was seen in mid abdomen. Splenic hilum was facing the left upper side. Splenic vein thrombosis was seen. Splenic pedicle was twisted which lead to complete splenic infarct. Spleen was pushing and displacing the intestine and colon. There was a small bowel loop adhered to the perisplenic area which was dissected and removed. Splenic pedicle was ligated and splenectomy was done. Intra operatively the left dome of diaphragm was high up and there was no defect as suggested in CT in terms of diaphragmatic hernia. The splenic fossa was occupied with bowel loops and pushed the spleen in the mid abdomen. Peritoneal toileting was done. Drain was placed in pelvic cavity and homeostasis was achieved. Abdomen was closed in layers and patient was successfully extubated. Post operatively patient was shifted to ICU in view of hemodynamic monitoring. 1 unit of PRBC was transfused. Patient improved so he was gradually stepped down. Patient was hemodynamically stable and was discharged.

Discussion

Wandering infarct spleen is characterised by excessive mobility and migration of the spleen from its normal position in the left hypochondrium due to lack of fixation and unduly long splenic pedicle. The spleen is normally fixed in this position by gastrosplenic and lienorenal ligaments. Congenitally, wandering spleen is the result of failure of development of these ligaments, which results in long splenic mesentery. The spleen develops in the dorsal mesogastrium, and through rotation of the gut it moves posterolaterally to the left. Fusion of the dorsal mesogastrium to the posterior abdominal wall and the left kidney forms the lienorenal ligament, which contains the tail of the pancreas and the splenic artery. Failure of fusion produces an abnormally long pedicle [9, 10]. Some congenital anomalies, such as hypermobile colon and prune belly syndrome, are associated with this disease [9]. The abnormal fixation of the spleen predisposes the splenic vascular pedicle to become tortuous, elongated and prone to intermittent torsion, in turn making the spleen vulnerable to infarction. [11]

Torsion of a wandering spleen is diagnosed in about 0.2–0.3% of patients who require splenectomy [4]. Weight of > 500 g is also responsible for torsion of the spleen [9]. The wide spectrum of signs and symptoms with which the patient presents makes wandering spleen a rare clinical entity to diagnose. Emergency physicians and surgeons should be aware and should keep this in mind as a

differential diagnosis when a patient presents with acute abdomen. Whirl sign and partial or no enhancement of splenic shape mass on contrast-enhanced CT scan is the likely diagnosis for pedicle torsion of the ectopic spleen in patients presenting with acute abdomen. Timely diagnosis and intervention is crucial for spleen preservation and avoiding life threatening complications. Conservative management of asymptomatic wandering spleen is associated with a 65% complication rate [8]. But in our case as it was long standing case, splenectomy was the treatment of choice due to the condition of spleen.

Conclusion

This case presentation emphasis on the importance to keep wandering spleen as a differential diagnosis in the mind of doctors while examining a case of acute abdomen. As timely diagnosis and right intervention can lead to preservation of spleen. In our case it was chronic and torsion and infarct of spleen was seen due to which splenectomy had to be done as an emergency procedure to save the life of the patient.

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