

Torsion of a wandering spleen

S. P Gupta, Deepak Sethi, Daya Ram, Jay Prakash Rangi, Raghuvveer Bunkar
Department of Surgery, Rabindra Nath Tagore Medical College, Udaipur, Rajasthan, India

Key words: Wandering spleen; splenectomy; splenopexy

Introduction

The spleen is a small organ usually located in the left upper abdomen. The spleen combines innate and adaptive immune system in a unique way. The function of the spleen is to remove older erythrocytes, cellular debris and blood-borne microorganisms from the circulation [1].

It is usually present in the left upper abdomen but sometimes due to lack of supporting ligaments it may be displaced from its original position. This is known as a wandering spleen. A wandering spleen is an uncommon clinical occurrence with less than 500 cases reported[2]. A wandering spleen may be either congenital or acquired. There is no hereditary predilection. Most of the cases are acquired. Acquired wandering spleen usually occurs during adulthood and it is due to trauma or other underlying conditions (e.g. connective tissue disease or pregnancy) that cause weakening of the various ligaments that hold the spleen in its normal position [3]. Wandering spleen is more common in females of age 20-40 years. Diagnosis is often elusive and depends on abdominal imaging.

The treatment of a wandering spleen is usually splenopexy. But if torsion of the pedicle is present with infarction of the spleen, splenectomy is the treatment of choice. Here we report a case of torsion in a wandering spleen.

Case Report

A 30 year old female presented to the surgical emergency department with a lump in her lower abdomen for two months and pain in her lower abdomen for four days. The lump appeared two months ago with pain tenderness in abdomen for which she was treated at her local hospital. Four days ago, she had developed acute pain in lower abdomen for which she was referred to the tertiary centre. She had no significant past history other than sterilization (tubal ligation) 1½ years ago. On examination, the lower abdomen was tense and tender with guarding. Bowel sounds were present. Vitals were stable

except tachycardia 120 beats/minute. A provisional diagnosis of peritonitis was made. Initially she was managed conservatively. Routine blood investigations were within normal limits except her haemoglobin which was 6 gm%. Ultrasonography showed a vague mass in the lower abdomen with an absent spleen. Contrast Enhanced Computerized Tomography scan showed a well-defined cystic lesion of approximately 128×84×169 mm with non-enhancing material in the umbilical and the hypo-gastric region. The vascular pedicle was attached to its mid part and it had twisted around the pedicle. The lesion was abutting on the anterior abdominal wall anteriorly and dome of urinary bladder and fundus of uterus inferiorly. The lesion was displacing adjacent bowel loops. The spleen was not visualized. Hence the provisional diagnosis of infarcted wandering spleen was made and patient underwent a laparotomy. On entering the peritoneal cavity, the spleen was visualized in lower abdomen. There were adhesions of bowel, bladder and the omentum to spleen which were divided. Pedicle of the spleen was very thin and found twisted. The spleen was delivered out of the peritoneal cavity and the pedicle was ligated and divided. After exploring rest of peritoneal cavity, a single drain was put and wound was closed in layers. Post operatively patient did well and was discharged after one week.

Discussion

The spleen is usually located in the left upper abdomen at the level of 9th to the 11th intercostal spaces. It is a crescent shaped structure, it has a convex outer margin, and inner




Figure 1. Spleen in lower Abdomen

Correspondence: Deepak Sethi

E-mail: drdeepaksethi2011@gmail.com

Received: 05-03-2018 Accepted: 23-08-2018

 <http://orcid.org/0000-0002-9911-9305>

DOI: <http://doi.org/10.4038/sljs.v36i3.8524>



margin is indented [4].

Normally the spleen is fixed to the stomach and posterior abdominal wall by gastrosplenic and splenorenal ligaments. The phrenocolic ligament also helps in fixation of the spleen with the diaphragm and the upper abdomen. If any or all of the gastrosplenic, splenorenal and phrenocolic ligaments are poorly developed or if they are absent or loose, the spleen migrates from its normal position to the left lower quadrant or other regions of abdomen; and gravity leads to the migration of spleen along with its vascular pedicle to the lower abdomen [5].

In a wandering spleen, the spleen is only attached by its vascular pedicle. Instead of ligaments. If this pedicle is twisted due to the movement of the spleen, the blood supply to the spleen may be interrupted and it may undergo infarction. As there is very little or nothing to hold the spleen in place, the spleen moves or “wanders” in the lower abdomen or pelvis due to gravity, and it may be mistaken for an unidentified abdominal mass. “Acquired” wandering spleen usually occurs during adulthood and it is due to trauma or other underlying conditions (e.g., connective tissue disease or

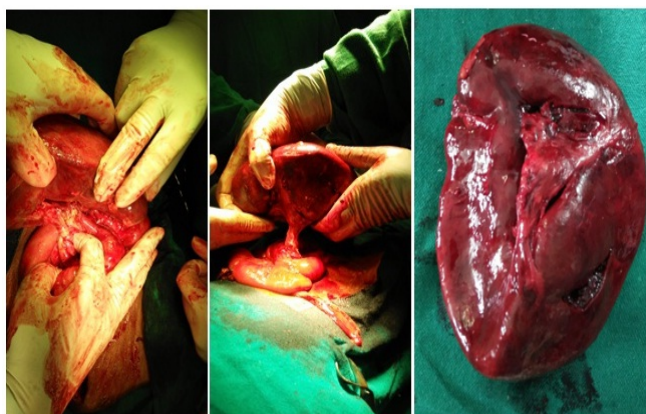


Figure 2. Torsion in Pedicle which was untwisted, ligated and splenectomy done

pregnancy) that cause weakening of various ligaments that hold the spleen in its normal position [3].

A wandering spleen is very rare occurrence, and is seen in women between the age of 20 to 30 years and young children. Clinically, diagnosis is very difficult.

The wandering spleen may be found in any part of the abdomen or pelvis depending on length of its vascular pedicle. Abnormally fixed spleen may be twisted on its vascular pedicle, causing ischemia to the spleen which may progress to infarction if not treated in time. Clinical presentation of a wandering spleen is varied. The clinical presentation may be acute or chronic; it may be present as an asymptomatic mass, a mass with pain or an acute abdomen.

All authors disclose no conflict of interest. The study was conducted in accordance with the ethical standards of the relevant institutional or national ethics committee and the Helsinki Declaration of 1975, as revised in 2000.

References

1. Mebius RE, Kraal G. (August 2005) Structure and Function of Spleen. *Nat Rev Immunol.* 2005 Aug;5(8):606-16. doi:10.1038/nri1669
2. Aman Sharma, Gisella Salerno (May 1, 2014) A torted wandering spleen: a case report. *J Med Case Rep.* 2014; 8: 133 doi: 10.1186/1752-1947-8-133
3. V. Bhanumathi, B. Balkishan, S. V. Masood (February 2013) Torsion of Wandering Spleen in a Woman Presenting as Emergency. *Indian J Surg* 75(1):59–61. doi: 10.1007/s12262-012-0433-8
4. Laura Leci-Tahiri, Afrim Tahiri, Rifat Bajrami, Mehmet Maxhuni (2013) Acute abdomen due to torsion of the wandering spleen in a patient with Marfan Syndrome. *World Journal of Emergency Surgery* 8:30. doi: 10.1186/1749-7922-8-30
5. Özkan Yılmaz, Vedat Bayrak, Ertuğrul Daştan, and Çetin Kotan (2013 Aug 30) Torsion of wandering spleen as a rare reason for acute abdomen: A presentation of two cases. *Ulus Cerrahi Derg.* 2013; 29(4): 200–202. doi: 10.5152/UCD.2013.47.

Learning Points:

- Most of the cases of wandering spleen are acquired, and are more common in young females.
- A wandering spleen may occur in young adult due to trauma or other underlying conditions (e.g., connective tissue disease or pregnancy) that cause weakening of the ligaments that hold the spleen in its normal position.
- Treatment of a wandering spleen is usually splenopexy. But, if torsion of pedicle is present with infarction of spleen, a splenectomy is the treatment of choice.