Torsion of Wandering Spleen in a Woman Presenting as Emergency

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Abstract Wandering spleen is a very rare condition, it is characterized by the absence or weakness of one or more of the ligaments that hold the spleen in its normal position in the left hypochondrium. The disorder is not genetic in origin. Instead of ligaments, the spleen is attached by a stalk-like tissue supplied with blood vessels (vascular pedicle). If the pedicle is twisted in the course of the movement of the spleen, the blood supply may be interrupted or blocked (ischemia) to the point of severe damage to the blood vessels (infarction). Because there is little or nothing to hold it in place the spleen “wanders” in the lower abdomen or pelvis where it may be mistaken for an unidentified abdominal mass. “Acquired” wandering spleen may occur during adulthood due to injuries or other underlying conditions that may weaken the ligaments that hold the spleen in its normal position (e.g., connective tissue disease or pregnancy). We here report a case of 40-year-old woman presented to the surgical emergency department, with complaints of colicky abdominal pain of 8 h duration with increasing severity and bilious vomiting. On examination, the patient well built, nourished, conscious, and coherent with profuse sweating. Vital signs were normal excepting high pulse rate of 120/min with blood pressure of 100/60. On examination, she has a central abdominal distention shifting to different quadrants with colicky pain with vague tender firm mass. Abdominal ultrasonography showed ectopic spleen around the umbilicus with variable echos and whorled appearance of the splenic vessels. The patient was prepared for emergency laparotomy. At laparotomy, the spleen was found just below the umbilicus and it was dusky

enlarged with infarction with four anticlockwise twists of the long splenic pedicle in the central quadrant of the abdomen. Splenectomy was carried out as there was clear evidence of splenic ischemia after detorsion of the spleen.

Keywords Wandering spleen · Ectopic spleen · Splenectomy · Detorsion

Introduction

Wandering spleen is a rare medical entity. In the age group of 20–40 years most cases are seen in women [1]. Clinical diagnosis is difficult due to lack of symptoms, unless splenic torsion has occurred and clinical symptomatology of acute abdomen develops. The diagnosis can be confirmed by imaging techniques. Treatment is operative due to complications of splenic infarction. Most of the reported cases are complicated by torsion of the splenic pedicle.

Case Report

A 40-year-old woman presented to the surgical emergency outpatient department, with complaints of colicky abdominal pain of 8 h’ duration with increasing severity and bilious vomiting.

On examination, the patient—well built, nourished, conscious, and coherent—was seen with profuse sweating. She had the history of having undergone total abdominal hysterectomy for uterine descent 8 years ago and surgery for vault prolapse 1 year ago.

Vital signs were normal excepting high pulse rate of 120/min with blood pressure of 100/60. On examination, she was found to have a central abdominal distention shifting to

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Fig. 1 Spleen found in central abdomen just below the umbilicus

different quadrants with colicky pain with vague tender firm mass. The patient was admitted and investigated.

Our clinical differential diagnosis of the patient included intussusception of intestines, twisted ovarian cyst, and twisted mesenteric cyst. Results of abdominal ultrasonography showed ectopic spleen around the umbilicus with variable echos and whorled appearance of the splenic vessels. However, pain is a common complaint, occurring in up to 60 % of patients, usually due to acute torsion of the mesentery, symptomatic splenic infarcts, or splenic congestion. The patient was prepared for emergency laparotomy.

On opening the abdominal cavity, the spleen was found just below the umbilicus and it was dusky enlarged with infarction with four anticlockwise twists of the long splenic pedicle in the central quadrant of the abdomen (Figs. 1 and 2).

Under the circumstances splenopexy had to be ruled out. Splenectomy was carried out as there was clear evidence of splenic ischemia after detorsion of the spleen. The spleen specimen weighing 1 kg was sent for histopathological examination (Fig. 3). The splenic pedicle was found to have a clot in both artery and vein (Fig. 4). The splenic artery originated from the celiac axis and the vein joining the superior mesenteric vein. Rest of the viscera was found in its normal position. Uterus and ovaries were not found.

Fig. 2 Spleen with four anticlockwise twists of the long splenic pedicle with infarction

Fig. 3 Spleen specimen weighing 1 kg

Postoperative recovery was uneventful. Pneumococcal prophylaxis was given. The patient was discharged on 8th postoperative day.

Discussion

The spleen normally has gastrosplenic and lienorenal ligaments to hold it in the left hypochondrium. Wandering spleen is a rare condition. The etiology of wandering spleen is divided into a congenital form and an acquired form. The congenital form results from a lack of development of the primary ligamentous attachments of the spleen. The acquired form is believed to be caused by a laxity of these ligaments, which might be attributable to hormonal changes, splenomegaly, trauma, or multiparity where lack of ligamentous support allows the spleen to twist on its own pedicle.

Among female patients, it is most common in older age groups. In our study, 9 of 17 cases of wandering spleen reported from Indian Hospitals were found in adult women. The hormonal effect on the ligaments in multiparous women or injuries and other similar conditions were found to cause the ligaments to weaken, such as connective tissue disease or pregnancy [2]. It can also occur with abnormal intestinal

Fig. 4 The splenic pedicle found to have a clot in both artery and vein

development. Here, this patient being nulliparous had congenital weakness of muscles/muscular dystrophy, as the patient had uterine descent and vault prolapse along with the long pedicle to make the spleen wandering.

Although splenopexy is considered to be the optimal treatment for the noninfarcted wandering spleen, especially in pediatric patients to avoid post-splenectomy sepsis, the vascular status of spleen is the key consideration. In this case the spleen was at risk of rupture and there was evidence of splenic ischemia after detorsion of the spleen. In recent years, the laparoscopic approach has been employed successfully and this offers the benefit of a shorter hospital stay and quicker recovery period [3]. However, in view of the presence of colicky pain and splenic infarcts as an emergency case, a splenectomy was performed in our patient.

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