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Case Report

Laparoscopic splenectomy for a wandering spleen causing chronic pelvic pain

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ABSTRACT

Wandering spleen is a rare condition with a reported incidence of less than 0.5% in which the spleen migrates from its normal anatomical location to any other position in the abdomen. Women constitute 80% of cases and one third of the overall patients are children. It has different clinical presentations such as asymptomatic, painless mass in the abdomen, intermittent abdominal pain and acute abdomen due to torsion of the vascular pedicle. Here we present a case of wandering spleen causing chronic pelvic pain. Laparoscopic splenopexy was the treatment choice but it could not be performed due to huge size of the wandering spleen.

Keywords: Laparoscopy, splenectomy, wandering

INTRODUCTION

Wandering spleen, defined as a spleen without peritoneal attachments, is a rare entity with an incidence of less than 0.5% (1, 2). It can also occur when the suspensory splenic ligaments are weakened by processes such as trauma, pregnancy and connective tissue diseases. Patients may present with a palpable mass in the abdomen or with acute, chronic, intermittent symptoms due to torsion of the wandering spleen or may be asymptomatic. Treatment of wandering spleen is surgical because conservative treatment is associated with increased complication. Splenectomy is indicated in the presence of torsion, splenic vein thrombosis or splenic infarction. Detorsion with splenopexy is the preferred choice of treatment in cases of viable wandering spleen (1, 3). We present a case of wandering spleen in a young woman with chronic pelvic pain.

CASE PRESENTATION

A 23-year-old young woman admitted to department of gynecology with a complaint of chronic pelvic pain and for a planned pregnancy. Abdominal ultrasound of the patient revealed a giant mass with a diameter of 17 cm having splenic sonographic architecture in pelvic area and the absence of the spleen in the left upper abdomen. The patient was then consulted to general surgery department. She had a history of moderate abdominal pain being sometimes severe for about two years and a mild constipation with abdominal distention. Abdominal examination revealed a palpabl, nontender mobile mass in lower abdominal quadrants. Serum hemoglobin level, white blood cell count, platelet level, liver enzyme levels and renal functions were in normal ranges. Contrast enhanced computed tomography (CT) demonstrated the extending vascular pedicle (splenic artery and vein) through the pelvic area (Figure 1, 2) and the spleen, which is 17.7 cm in its longest diameter, with a viable parenchyma isoattenuating to normal splenic tissue (Figure 3). A diagnosis of wandering spleen was made. The patient was informed about the surgical intervention. Either splenopexy or splenectomy was described and an informed written consent was obtained from the patient. The patient underwent elective laparoscopy. A three port laparoscopy was performed. Intraoperatively the spleen was in pelvis with elongating vascular pedicle in the neighbourhood of the fallopian tube, ovary and the sigmoid colon (Figure 4). Our surgical plan was to perform laparoscopic splenopexy, unfortunately due to huge size of the spleen we could not be able to perform a splenopexy to its usual position. Vascular pedicle of the spleen was ligated by using Ligasure™ device (Covidien, Colorado, USA) (Figure 5). Neither clips nor staples were used for vascular ligation. The spleen was placed in an endobag, disintegrated and aspirated through the 10 mm trocar site. A suction drain was replaced to rectovesical fossa. Postoperative period was uneventful and the patient was discharged on postoperative second day without any complication.

DISCUSSION

A wandering spleen occurs from a failure of fusion of the dorsal mesogastrium to the posterior abdominal wall in the second month of embryonic development. It is a rare condition with a reported incidence of less than 0.5% in which the spleen lacks retroperitoneal fixation, thus its vascular pedicle can twist resulting in ischemia. Spleen is attached to the posterior part of the left hypochondrium through the

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Figure 1. Visualization of extending splenic artery (white arrow) by multiplanar reconstruction (MPR) study of coronal arterial phase CT angiography

Figure 2. Visualization of the splenic vein (white arrow) by MPR study of coronal venous phase of CT angiography

Figure 3. Coronal MPR image of huge size wandering spleen. The longest diameter of the spleen is 17.7 cm (yellow arrow)

splenic pedicle which is formed by the gastrosplenic, splenorenal and splenocolic ligaments The most important one is the splenorenal ligament. Wandering spleen occurs in case of the

Figure 4. Intraoperative image of the wandering spleen. It was in close relation with the ovary, fallopian tube and the sigmoid colon

Figure 5. Ligation of the vascular pedicle of the spleen with Ligasure device

laxity or absence of these ligaments (4). Acquired factors that increase splenic mobility include abdominal wall laxity, hormonal effects of pregnancy and splenomegaly, history of malaria, trauma, benign hematologic disease, muscular atrophy and diaphragmatic hernia repair (5, 6).

Although this condition can be diagnosed at all ages, from childhood to adolescence, and in both genders, it is most often seen in women in the third decade of life as in our case (7). Unless splenic torsion occurs and acute abdominal clinical symptomatology develops, clinical diagnosis is highly challenging due to lack of symptoms (8). The most common presentation includes subacute abdominal pain with or without other gastrointestinal complaints (9). It may also present with an acute abdomen due to splenic infarction caused by sudden torsion of the splenic pedicle (10).

Radiology plays a crucial role in the preoperative diagnosis of wandering spleen. Ultrasonography and computed tomography (CT) show the absence of spleen in its usual position and the ectopic position of the spleen. Gray scale and Doppler ultrasonography is a feasible, effective and non-invasive method in demonstrating the localization of the spleen and blood stream and thrombi in splenic artery and vein (11). CT should be the choice of diagnosing wandering spleen in order to exclude the torsion of the spleen and demonstrate the vascular anatomy.

Although splenectomy has traditionally been used for this condition, splenopexy is increasingly used in the pediatric

population to anchor the spleen and preserve splenic function. Concerns over overwhelming post-splenectomy sepsis made splenopexy first line treatment if there was no evidence of infarction or any other complicating pathology (12).

However, a recent multicenter study reported complications after splenic salvage with splenopexy in 60% of cases resulting in post splenopexy splenic ischemia (13).

CONCLUSION

Although wandering spleen is a rare condition, it should be included in the differential diagnosis of any mass lesion in the abdomen or pelvis and also of chronic or acute abdominal pain. Either splenopexy or splenectomy should be performed in appropriate conditions to avoid complications.

Informed Consent: Written informed consent was obtained from patient who participated in this case.

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