

Case Report

Wandering spleen: as a differential diagnosis in pelvic masses

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ABSTRACT

Wandering spleen is rare, particularly in children, and diagnosis is difficult. It usually occurs at 20 to 40 years of age, and most cases are seen in women. Diagnosis is difficult because of lack of symptoms, unless splenic torsion has occurred. Patients usually have an asymptomatic abdominal mass, an acute abdomen, or, most commonly, a mass associated with pain. Rarely may it present as hypersplenism. Treatment is operative because of complications associated with the condition. Splenopexy or splenectomy can be done. We report a rare case of wandering spleen in an old age women who was treated by splenectomy because of associated hypersplenism.

Keywords: Wandering spleen, Hypersplenism, Pelvic mass

INTRODUCTION

Wandering spleen is a rare condition characterized by the absence or underdevelopment of one or all of the ligaments that hold the spleen in its normal position in the left upper quadrant of the abdomen.¹ It is an uncommon clinical entity with fewer than 500 cases reported in medical literature. Children make up one third of all cases with a female predominance after the age of one year.² At adult age it most frequently affects women of reproductive age, in whom acquired laxity of the splenic ligaments is usually the cause.² The clinical presentation of wandering spleen is variable, but the main symptom is abdominal pain. Its major complication is acute torsion with subsequent infarct, which is a potentially fatal emergency. Majority of the cases go undiagnosed and unreported. We report a rare case of wandering spleen in an old age women who was treated by splenectomy because of associated hypersplenism.

CASE REPORT

A 65 year old woman came to OPD at our institute with complaints of abdominal distension and lump in lower abdomen since 13 years. The lump increased in size over

this period of time. The increase in size of the lump was more rapid in the last four months before admission. It was not associated with pain or any other symptoms. She did not have any other gastro-intestinal complaints. Patient was post-menopausal since 25 years. There was no history of post-menopausal bleed or weight loss associated with the lump. Patient is a known case of cardiomyopathy for which she had multiple admissions in hospital and is on treatment for the same. She had 4 children, all full term normal deliveries. She also complains of breathlessness since last four months.

Patient also gives history of multiple blood transfusions in the past details of which were not available. Clinically there was presence of a single lump in lower abdomen reaching just above the umbilicus of maximum transverse diameter of 21 cm. The lump was oval in shape with smooth margins and presence of a notch superiorly. Lower border of the lump was palpable; consistency was firm, location intra-abdominal, non-tender and slightly mobile. Rest of the abdomen was normal. Complete blood picture was suggestive of pancytopenia. Liver function test and renal function test were normal. 2D-Echo was suggestive of LVEF up to 30%, dilated cardiomyopathy with moderate mitral regurgitation with

moderate tricuspid regurgitation with moderate pulmonary hypertension. Sickling test was negative. Coagulation profile was deranged. Ultrasound was suggestive of massively enlarged ectopic spleen in lower abdomen with dilated splenic vein with splenic hemangiomas with minimal perisplenic collection with minimal ascites.

CT was suggestive of wandering enlarged spleen in lower abdomen with multiple infarcts and hemangiomas within, dilated splenic vein with no obvious twisting of splenic vascular pedicle. Splenectomy was done because of hypersplenism. Patient received multiple transfusions with whole blood, packed cell, platelet concentrate and fresh frozen plasma before and during operation. Post-operative recovery was uneventful with post-operative complete blood picture showing dramatic improvement in all the parameters even after six months follow up and without any blood transfusion.



Figure 1: Pre-operative photo showing the lump.



Figure 2: Intra-operative photo showing the spleen with the pedicle.



Figure 3: Intra-operative photo showing dissection of the pedicle.



Figure 4: Specimen.

DISCUSSION

Wandering spleen is defined as mobile spleen that is attached only by an elongated vascular pedicle, allowing it to migrate to any part of the abdomen or pelvis. It is a result of congenital anomalies in the development of the dorsal mesogastrium and the absence or malformation of normal splenic suspensory ligaments.^{1,3} The splenic ligaments include the gastrosplenic and lienorenal ligaments. The former attaches the spleen to the greater curvature of the stomach, whereas the latter attaches the spleen to the posterior abdominal wall, both ligaments

attach to the hilum of the spleen medially. The phrenicocolic ligament supports the spleen inferiorly.³

However, acquired anomalies have been described and are mainly attributed to laxity of the ligaments due to weakness of the abdominal wall, multiple pregnancies, hormonal changes or increase in size of the spleen.⁴ Both congenital and acquired conditions result in a long pedicle, which is predisposed to torsion. The splenic vessels course within the pedicle, and therefore, torsion of the pedicle results in partial or complete infarct of the spleen.

Patients with a wandering spleen may be asymptomatic, present with a movable mass in the abdomen, or have chronic or intermittent abdominal pain because of partial torsion and spontaneous detorsion of the spleen.^{5,6} Majority of the cases go unnoticed. Torsion is the most common complication.⁴ It usually presents as an acute abdominal problem. This makes the physical examination more difficult and preoperative diagnosis less accurate. Clinically, the diagnosis can be suspected when a firm, movable abdominal mass is felt with the typically described “notched border”. However splenic engorgement may hide the splenic notch.^{7,8} Very rarely hypersplenism may develop in a wandering spleen. Preoperative diagnosis of wandering spleen is rarely suggested, based on clinical findings alone, because of nonspecific symptoms. Therefore, imaging plays a major role in establishing the diagnosis.^{6,8} Plain radiography and barium studies may show abnormal positioning of the splenic flexure of the colon with a soft tissue mass but are still nonspecific.⁵

Ultrasound is very helpful in identifying the organ and its location and color Doppler can give the status of the splenic vessels.⁸ However, sonography can often be hampered by bowel gas. Angiography can also provide definite evidence of splenic torsion and ectopic splenic location, showing a tapered and abruptly twisted distal splenic artery at the point of torsion, but it is invasive and not essential for diagnostic purposes.^{1,6}

Computed tomography is the preferred study for diagnosing a wandering spleen with or without complication. The CT manifestations may include: (I) absence of the spleen anterior to the left kidney and posterior to the stomach, (II) a lower abdominal or pelvic mass with homogeneous or heterogeneous splenic parenchyma and an attenuation value less than that of normal splenic tissue, (III) whorled appearance of splenic vessels and surrounding fat only (if torsion suspected).^{5,7,9} However, it is the whorled appearance of the splenic vessels and surrounding fat at the splenic hilum that is considered as specific of torsion of a wandering spleen.¹⁰

Until recently, splenectomy has been performed for wandering spleen though several authors had advocated splenopexy earlier.^{11,12} Stringel et al fixed the spleen via its pedicle.⁴ Maxwell-Armstrong et al.¹³ fixed it by

omentum. Caracciolo et al and Peitgen et al used transposition of the colonic flexure and gastrocolic ligament for splenopexy.^{14,15} Allen and Andrews sutured a basket of Dexon® mesh around the spleen, whereas Seashore and McIntosh, van der Staak and Festen, and Steinberg et al dissected a posterolateral retroperitoneal pouch during laparotomy.¹⁶⁻¹⁹ Actually, laparoscopic splenopexy is an easy alternative to laparotomy. The laparoscopic approaches reported have used sacks and slings of Dexon® or Vicryl® mesh for fixation or an autologous peritoneal pouch in the posterolateral abdominal wall permitting to avoid the risk of infection of the mesh.^{18,20} The latest technique seems to have the best results according to the satisfaction of the patients and the esthetic appearance.²¹

In the present case, splenectomy was done due to associated hypersplenism (splenomegaly with hypersplenism). Post-operative recovery and improvement in blood picture was dramatic after removal of the spleen. Wandering spleen with splenomegaly and hypersplenism is a very rare condition. There are some cases reported as wandering spleen with torsion presenting clinically as hypersplenism.^{22,23} In our case hypersplenism was not associated with torsion.

CONCLUSION

Wandering spleen is a rare diagnosis and only a high suspicion while examining a case of lump in abdomen without any other specific signs and symptoms will be fruitful. Nevertheless keeping in mind the rare possibility of such a diagnosis may come in handy for planning further investigations. Ultrasound and more so computed tomography are diagnostic for wandering spleen. The diagnosis of hypersplenism will only be evident after complete blood investigations have been performed and correlated with the diagnostic criteria.

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