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Case Report

Wandering spleen torsion resulted as intestinal obstruction

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Abstract

Wandering spleen is a very rare condition with an estimated incidence of 0.2%. Clinical presentation of wandering spleen can vary from asymptomatic to an abdominal emergency. In this report, we present a two-year-old girl with acute intestinal obstruction due to the torsion of wandering spleen. We successfully performed the splenopexy procedure in a 2-year-old patient who came with an acute intestinal obstruction.

Keywords: Intestinal obstruction; splenopexy; torsion; wandering spleen

INTRODUCTION

Wandering spleen is one of the rare causes of splenic torsion. The estimated incidence is 0.2%. Wandering spleen may occur as a result of congenital malformation, laxity or absence of splenorenal, gastrosplenic and splenocolic ligaments. Wandering spleen is only about 500 cases reported worldwide (1,2). The disease is 2-5 times more common in boys younger than 12 months (3). Wandering spleen incidence rate is equal in other child age group. Approximately %30 of cases occur in children older than 10 years of age (4).

Clinical presentation of wandering spleen is very variable; some patients are asymptomatic and can be noticed on abdominal ultrasound. Main symptom is abdominal pain due to splenic pedicle torsion. In rare cases emergency compression is performed on the the intestine due to wandering spleen with or without torsion (1,2).

CASE REPORT

A 19-month-old girl was admitted to the emergency department with abdominal pain, nausea, bilious vomiting. On physical examination; her general condition was poor and asleep, body temperature was 38-5 degrees. Abdominal distension was noted and a pelvic mass was palpated in the left lower quadrant. There was diffuse abdominal tenderness more pronounced in the left lower quadrant. Laboratory investigations showed mild anemia (Hg:9.9 g/dL), leukocytosis (WBC:19.8 /uL), thrombocytosis (Plt:1257 /uL) and hypoalbuminemia (Alb:2.5 g/dL). CRP was 10 times higher than normal level. Abdominal radiography showed an important colon distention with air-fluid levels (Figure 1).

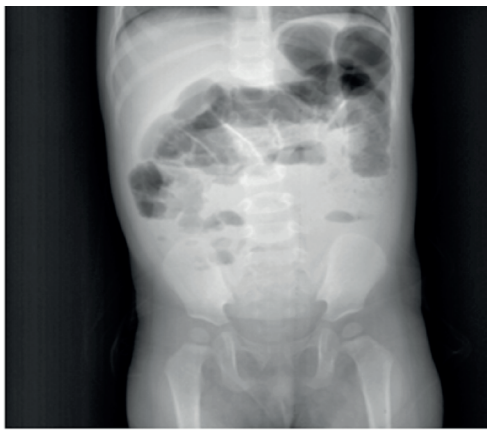

Figure 1. Abdominal radiography with air-fluid levels

Abdominal ultrasonography showed wall thickening and edema in the 6 cm colon segment in the left quadrant. Before this segment all intestinal loops were dilated with intestinal content. Surprisingly spleen was reported normally on left upper quadrant.

The patient underwent urgent laparotomy. Laparotomy was performed with midline transverse incision above the navel. On exploration, there was 1 accessory

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spleen and wandering spleen was 720 degrees clockwise rotated, and compressing the sigmoid colon.

The spleen pedicle was untwisted and the splenic congestion size reduced dramatically (Figure 2). So salvage splenopexy was performed with the technique described by Maxwell-Armstrong and Stringel. Omentum was wrapped over spleen. Spleen was fixed left upper quadrant with non-absorbable sutures. Post-anesthesia procedures were performed. In postoperative 3rd day an abdominal Doppler ultrasound showed that spleen was left upper quadrant of the abdomen with normal blood flow. She was discharged on the postoperative fifth day with an oral analgesic. Currently the patient continues in the second postoperative year and the follow-up every 6 months.

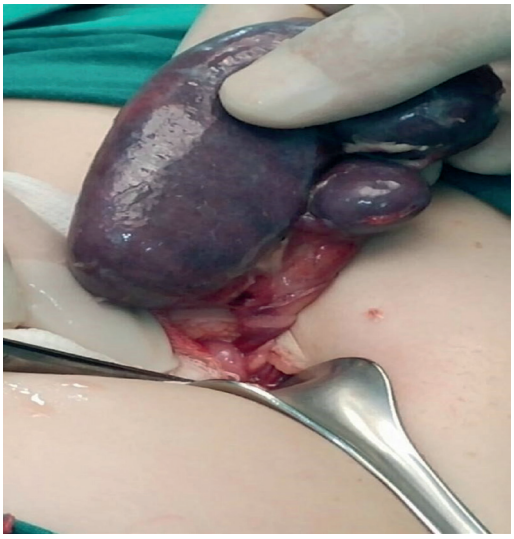

Figure 2. Torsion wandering spleen with accessory spleen

DISCUSSION

Wandering spleen is defined the migration of spleen from upper left abdomen. It can be congenitally or acquired. Etiological factors are not clean but researchers think that it's multifactorial. The congenital form is distributed with birth defects especially mesogastrium dorsum anomalies in which spleen, pancreas and splenorenal ligament develop from (3). Other congenital fixation abnormalities such as hypermobile colon, connective tissue disease, prune belly syndrome, gastric volvulus, congenital diaphragmatic disease, renal agenesis are some other syndromes that reported with wandering spleen (3,5,6). The acquired wandering spleen occurs due to abnormal relaxation or weakness of splenic ligaments. Especially women due to hormonal influences in childbearing, some sorts of accidents and injuries, hematologic diseases that cause massive splenomegaly like malaria and infectious mononucleosis have an increased risk of acquired wandering spleen (5,6).

Approximately 55% of cases have recurrent abdominal pain, 15% of children with wandering spleen cases are asymptomatic and 64% of wandering spleen cases in children present with acute symptoms due to torsion of the spleen pedicle (7,8). Rarely symptoms like nausea, emesis, mild crampy abdominal pain, dysuria can be attributed to other complications such as include obstruction of the gastric outlet, duodenum, small intestine, colon, various types of intestinal volvulus, acute pancreatitis, gastrointestinal bleeding, splenic abscess (2,7-12). Our patient had nausea and colonic obstruction due to splenic compression. In physical examination a sensitive abdominal mass may be palpated in the left lower quadrant as in our case. Although there isn't a specific laboratory marker to wandering spleen, there may be signs of increased inflammatory markers, hypersplenism and asplenia findings (10). In our case we observed leukocytosis, thrombocytosis and CRP elevation, but this may be due to intestinal obstruction or torsion of wandering spleen. Wandering spleen torsion can cause splenic infarction, sepsis, acute pancreatitis and gastrointestinal bleeding secondary to portal hypertension or splenic vein thrombosis (11,12). Intestinal obstruction, gastric volvulus, spontaneous or traumatic spleen rupture are other less common complications (12).

Imaging plays a major role in establishing the diagnosis however there is usually no specific finding on the X-ray. In our case we observed the air-fluid level caused by the compression of the wandering spleen torsion to the intestinal segments. The most specific finding in ultrasonography (US) for wandering spleen is that the spleen is lower in the ectopic position. If the spleen returns to its normal or near-normal position, the diagnosis may be delayed and recurrence occurs. This condition results in complications like in our case (13). It should be noted that ultrasonography depends on the experience of the radiologist. Computerized tomography (CT) provides valuable information in the diagnosis, demonstrates spleen localization, and viability of spleen. Also confirming the diagnosis with Doppler US and CT can provide additional information on the blood flow profile in the splenic pedicle and parenchymal changes.

Non-operative management of wandering spleen torsion is not recommended because of 65% spleen torsion has splenic infarction risk (14). In the absence of the necrosis or splenic infarct, untwisting of the pedicle and splenopexy is the first treatment method because of more feasible, less invasive, protective for splenic function. Splenopexy can be performed laparoscopic or open surgery with placement of the spleen into a placement in an omental basket, dexon mesh basket, suture splenopexy, placement in an extraperitoneal pocket, colonic displacement with gastropexy (15).

In our case splenopexy was performed by splenic fixation to the diaphragm after splenic pedicle detorsion in an omental basket. In the presence of splenic infarct or necrosis splenectomy is required.

CONCLUSION

Wandering spleen torsion is a very rare diagnosis in an abdominal emergency. It should be kept in mind in all patients if there is a palpable mass, regardless of the patient's complaint.

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