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Case Report

A rare cause of acute abdominal pain: Torsion of wandering spleen

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Abstract

Wandering spleen is a rare condition presenting as the spleen being found somewhere different from its usual location due to the looseness of the peritoneal ligaments of the spleen. Its occurrence rate among the major splenectomy series in medical literature is less than 0.5%. It usually presents itself between the ages of 20 and 40 and the majority of the patients are women. A 20-year-old female patient with recurrent abdominal pain was admitted to our emergency clinic with abdominal pain going on for 3 days, nausea, vomiting and loss of appetite. Computerised Tomography (CT) indicated a pelvis localised spleen and an infarctus due to a non-homogenous parenchyma area. The patient was operated on with a provisional diagnosis of wandering spleen. During exploration a relatively large, congested and mobile spleen was found in the pelvis and a splenectomy was performed. The wandering spleen presents itself on a spectrum ranging from asymptomatic to acute abdomen. Symptoms usually arise from complications related to torsion. The surgical methods performed on wandering spleen are splenorraphy and splenectomy. The deciding factor for determining the treatment method is the existence of infarction in spleen. Wandering spleen is very rare and a cause for acute abdominal pain, we think it is important to consider it for differential diagnosis in cases with acuteabdominal pain, especially the cases with intra-abdominal mass findings, for an accurate diagnosis and treatment plan.

Keywords: Acute abdomen, Splenectomy; wandering spleen

INTRODUCTION

Spleen is usually found in the 9th and 12th thoracic vertebral level, at the back of the left upper abdominal quadrant. Wandering spleen happens in the presence of a pedicle that is long enough to cause movement within peritoneum (1).

It was recognized for the first time by Van Horne in 1667 and the torsion update was presented in 1885 (1). It has been observed in less than 0.5% of the major splenectomy cases in the medical literature. It's more commonly observed in women between the ages of 20 and 40 (2, 3). There have been approximately 500 reported cases of wandering spleen in the medical literature (4).

Wandering spleen is usually asymptomatic. There could rarely be symptoms present due to the vascular structures of the spleen wrapping around them. It could present itself as abdominal mass, recurrent stomach ache, ileus symptoms due to pressure and acute abdominal pain due to torsion. . Splenectomy is performed in cases with infarction and splenopexy is performed in cases without infarctions. It's rarely found in the pelvic region (5).

In this paper we aim to present a wandering spleen case with acute abdomen and pelvic mass findings along with the medical literature.

CASE REPORT

A 20-year-old female patient with recurrent abdominal pain was admitted to our emergency clinic with abdominal pain going on for 3 days, nausea, vomiting and loss of appetite. The patient had no history of operation, systemic disease or metabolic disease.

During the physical examination; BP:120/70mmHg, Respiratory Rate:20 Pulse: 80/min rhytmic, Body Temp: 37.5°C, general condition was good, the patient was conscious, cooperating and oriented, there was medium abdominal distention and especially suprapubic sensitivity.

During laboratory examination; hemoglobin concentration: 8.4 g/dl, white blood cell count:12X103/µl, and thrombocyte count was 903x103/L. C-reactive protein (CRP) was 102 mg/L. Biochemical examination was in the normal range. Chest X-ray did not show free air under the diaphragm. Standing abdominal X-ray showed nonspecific air-fluid levels. Upon ultrasound inspection of the case, the long axis of the spleen was 17cm, and was located in the pelvis.

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Doppler USG showed impaired vascularity, and Computerized Tomography (CT) examination was conducted. The spleen was located in the pelvis. A non-homogenous area of the spleen parenchyma indicated an infarctus (Figure 1). As a result of physical examination and radiological examinations, the patient was decided to be operated on with a provisional diagnosis of torsion of the spleen.

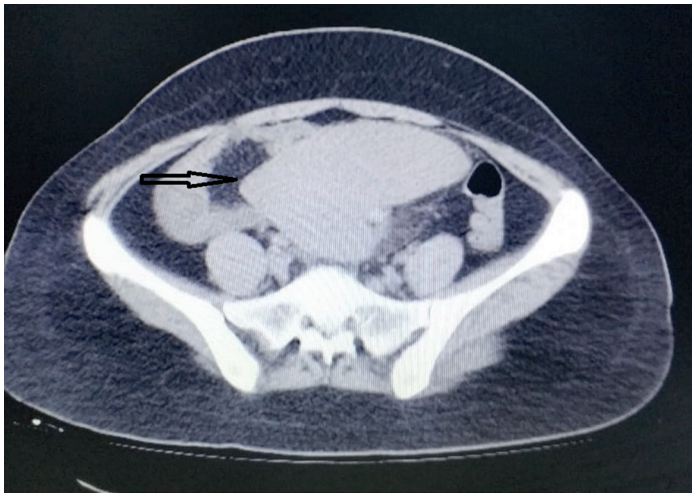


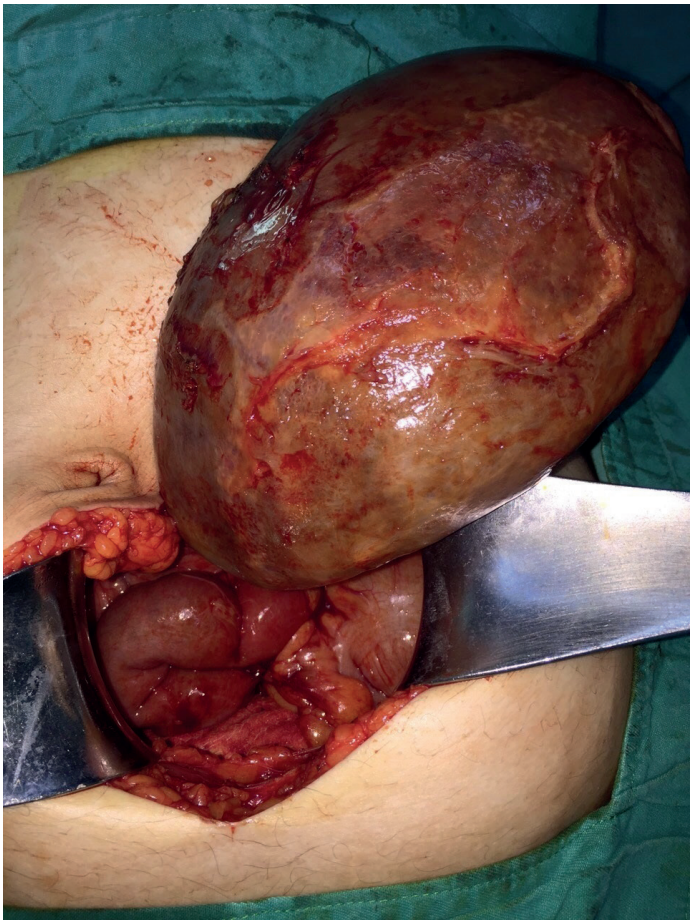
Figure 1. The spleen was located in the pelvis. A non-homogenous area of the spleen parenchyma indicated an infarctus

Figures 2. a fairly large, congested and mobile spleen was seen in the pelvis

The patient was admitted to the general surgery ward. The abdomen was entered with a midline incision above and below the umbilicus, while under general anesthesia and in the supine position. During exploration a fairly large, congested and mobile spleen was seen in the pelvis (Figures 2, 3). There was a freely floating splenic structure with no gastrosplenic, splenorenal, splenocholic, and frenosplenic ligaments. The vascular pedicle was quite long and rotated around itself. Splenectomy was concluded with the binding of vascular structures.

There were no postoperative complications. On the second postoperative day the drain was removed. Reoperation and revision surgeries were not needed. In the postoperative period, antipneumococcal and antihemophilius influenza vaccines were administered on the 4th day. The patient had an uneventful postoperative period and was discharged on the 5th postoperative day. The pathology result was compatible with an infarct. There was no problem in the polyclinic follow-up on the 15th postoperative day.

Written informed consent was given by the patient.



Figures 2. a fairly large, congested and mobile spleen was seen in the pelvis

DISCUSSION

Wandering spleen is a rare condition and its actual incidence is not known, but it accounts for less than about 0.2% of reported cases of splenectomy. The spleen develops embryologically from the mesenchymal cells of

the dorsal mesogastrium in the upper left quadrant of the abdomen. Although the etiology of the wandering spleen is not known, the looseness of these ligaments due to congenital or acquired causes leads to excessive mobility of the spleen and the so-called wandering spleen occurs. In addition to these congenital pathologies, acquired conditions that cause looseness of the ligament can also cause the wandering spleen. These include splenomegaly, trauma, excessive abdominal wall slackness due to severe muscular atrophy, previous abdominal operation, and the hormonal effects of pregnancy (6-8).

The wandering spleen can be found together with various masses such as epidermoid cysts, simple cysts, cystic lymphangiomas, lymphomas and inflammatory pseudotumors (9).

Emergency ultrasonography (USG) is very useful in the initial stage of diagnosis by showing the spleen as a mass in the abdomen instead of its normal location. CT can better describe anatomic changes and rapidly evaluate spleen perfusion (10-12). The most important complication of the wandering spleen is torsion of the long vascular pedicle, i.e., splenic torsion. Splenic torsion can be seen as acute-complete or intermittent-incomplete. In a comprehensive review of 133 cases in the literature, 76 patients had a mass and nonspecific abdominal pain, 26 were asymptomatic, 25 had acute abdomen and 6 had an asymptomatic mass (13). Our patient presented with acute abdomen. The wandering spleen may cause compression of the surrounding organs due to the mass effect, and may cause obstructive uropathy, gastric outlet obstruction, duodenal obstruction and portal hypertension (14).

The examination of the spleen parenchyma and vascular structures by Doppler USG evaluates the blood supply to the spleen. Increased arterial resistance and decrease in venous flow can be observed indicating torsion in Doppler USG While spiral appearance of splenic vessels in CT indicates torsion (6). The presence of splenomegaly in the wandering spleen should first be considered as torsion, but this may not always be present. Laboratory tests are generally nonspecific. Thrombocytopenia and hypersplenism may develop due to dysfunction of the spleen (15).

Various approaches to treatment can be preferred. Some changes have occurred in the historical process. Splenectomy was the accepted approach, whether a torsion was present or not, when the wandering spleen was detected. However, the preservation of the spleen has become the main objective, especially when considering the immunological benefits of the spleen in children. The torsion of the spleen should be primarily detorsioned and its viability assessed. Splenectomy is inevitable if duration of torsion is prolonged and an infarct in the spleen has developed (15).

CONCLUSION

In our case, we performed a splenectomy because we considered torsional infarction. Acute torsion is very dramatic. The patient has an agonizing pain and peritoneal irritationWe think that it is important to consider for the differential diagnosis in cases with acute abdominal pain, especially the cases with intra-abdominal mass findings, for an accurate diagnosis and treatment plan.

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Patient informed consent : The family of the patient had given an informed consent for participation in this study.

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