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Wandering Spleen: A Heavy Price of Delayed Diagnosis: A Case Report with Review of Literature

Salam Adil Saleh[1], Nabil Isam Naiem[2*], Baraa Freeh Benyan[3], Aamir Shaheen Yousif [4]

[1]General surgery consultant ,Heet general hospital, Al-Anbar , Iraq.

*[2]General surgery consultant, Shorsh Teaching Hospital , sulaimaniya , Iraq.

[3]Anesthesia and intensive care specialist, Heet general hospital, Al-Anbar, Iraq.

[4] Radiology specialist, Al-Ramadi Teaching Hospital, Al-Anbar, Iraq.

ABSTRACT

Wandering spleen is a rare condition that results from absence or laxity of the suspensory ligaments of the spleen, occurs mostly in children below one year and women in the third decade of age. Due to its wide range of presentation symptoms, it may represent a diagnostic challenge. In this article we present a case of ten years old girl presented with history of two days of severe abdominal pain, diagnosed as infarcted twisted wandering spleen, and was treated with laparoscopic splenectomy.

KEYWORDS: Wandering spleen, volvulus, infarction, laparoscopic splenectomy.

ARTICLE DETAILS

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INTRODUCTION

The spleen which normally occupies the left upper quadrant of the abdomen, may in some rare occasions that could be less than 0.2% - 0.25% (1,2), and due to causes, which could be congenital or acquired, leaves its position and go wandering inside the abdomen or pelvis. The pathology behind this abnormality could be due to the loss or abnormal laxity of the suspensory ligaments of the spleen, combined with the effect of gravity dragging the spleen downwards and medially, giving rise to a wide range of presentation possibilities that extends from being asymptomatic, to discomfort due to pressure effect of the spleen on other organs, to acute abdomen and dangerous emergencies due to splenic torsion, infarction, and rupture (3,4). Being so rare with wide spectrum of presentation probabilities may put the clinician in real challenge to offer the best diagnosis and treatment.

CASE PRESENTATION

A ten years old girl, presented to the emergency department of Heet general hospital in Al- Anbar governorate (Iraq), with two days history of severe abdominal pain, the patient had a previous similar attack one year ago and was seen by a general practitioner and was improved on simple medical treatment without surgical intervention.

General examination revealed that the patient was mildly febrile; body temperature was 38 degrees Celsius, pale, her pulse rate was 99 pulses per minute, her blood pressure was 102:58 mm Hg.

There was mild abdominal tenderness, and guarding mostly at the left side, no mass was felt and no abdominal distension was noticed.

Digital rectal exam was normal, her laboratory investigations were; Hb= 8gm/dl, WBC count= 22,000 / mm^3, Platelet count= 540 000/mm^3, her pancreatic enzymes, renal function tests, and liver function tests all were within normal ranges.

Ultrasonography showed no abnormality except moderate pelvic and mild abdominal free fluids. The diagnosis came from the CT scan of the abdomen with IV contrast which revealed a splenic volvulus, twisting of the vascular pedicle, reduced splenic enhancement suggesting vascular compromise, with moderate abdominal and pelvic free fluid.

We decided to do diagnostic laparoscopy to confirm the diagnosis, on entering the abdomen we noticed free fluid in the abdomen and pelvis which was dark brown in color, also the spleen was twisted on its axis, completely black in color, and about twelve centimeters medial to its normal position.

So, we added another two 5mm ports along an oblique line ten cm and parallel to the left costal margin, we did detorsion to the spleen, and as we saw that there were no any color improvement even after twenty minutes of waiting, we decided to do laparoscopic splenectomy (Figures 1-3), we did careful dissection to release the spleen and expose its hilum, then we controlled

the blood vessels with vascular clips then divided it with the ligasure, and after securing meticulous hemostasis, we extracted the spleen through a ten centimeters Pfannenstiel incision, thorough abdominal cavity wash with two litters of normal saline, with suction and placement of pelvic drain was done.

The time of the operation was 92 minutes, the patient was discharged well from the hospital after four days, vaccinations against pneumococcal, meningococcal, and Hemophilus influenza diseases were given, the histopathological report revealed multiple splenic infarctions, and the postoperative course of the patient was uneventful.

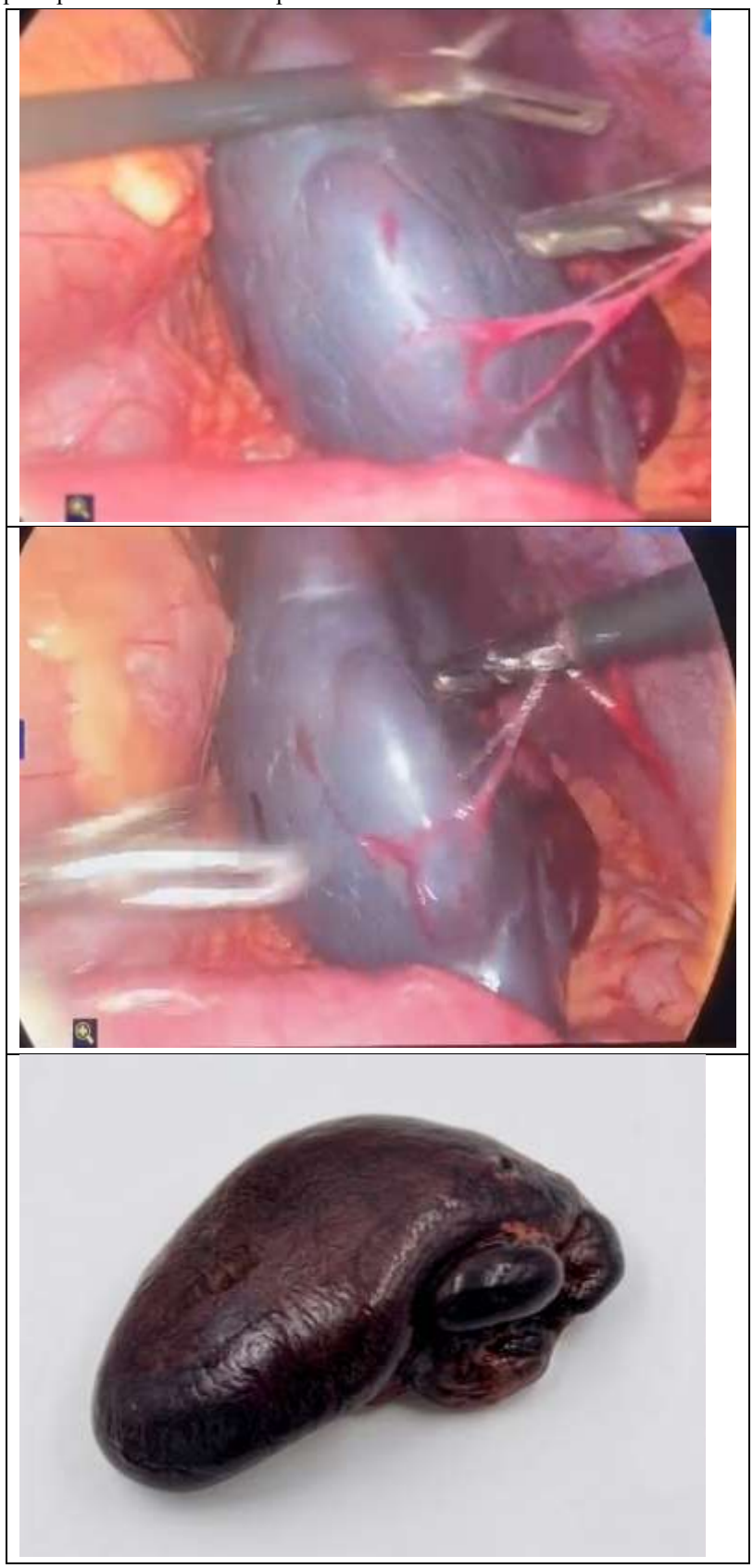

Figure1: laparoscopic splenectomy.

DISCUSSION

The spleen migrates from its normal site in the left hypochondrium due to weakness or even absence of the fixation mechanism i.e. the gastrosplenic and the lienorenal ligaments, and this could be due congenital agenesis of these ligaments which is usually associated with failure of fusion of the dorsal mesogastrium to the posterior abdominal wall (5,6), or acquired anomalies that are usually happen in multiparous women due to hormonal and mechanical effects of multiple pregnancies that cause laxity of the abdominal wall and ligamentous lengthening (7), and this may explain the two distinct common periods of presentation; the first one in childhood below one year of age with male to female ratio of 2.5:1 and the second that occur in the third decade of life with female to male ratio of 7:1(8).

While the most common mode of presentation could be an abdominal mass with on-off attacks of abdominal discomfort due to torsion and detorsion of the spleen (9), our case presented to us after two days from starting of her symptoms, so, she had severe abdominal pain and tenderness, this delay was due to misdiagnosis of the case as gastroenteritis.

The imaging modalities are of great help in diagnosing such cases, plain radiograph and ultrasound may show absence of spleen in the left upper quadrant, presence of soft tissue mass in abnormal position, which could be a characteristic coma shaped spleen, or distended bowel loops, we also can get benefit from doppler ultrasound to evaluate blood flow (10,11,12).

In addition to the above findings CT scan can add the attenuation of the mass which may be less than that of the normal splenic tissue, with the multi slices spiral CT can diagnose early cases before the progression to infarction (13).

In our case the ultrasonography did not catch the problem and its report mentioned only mild to moderate free fluid in the abdomen and pelvis with distended bowel loops, but the diagnosis came from the CT scan of the abdomen which mentioned the presence of splenic volvulus with vascular compromise.

Wandering spleen should be treated operatively and this is due to the high rate of complications related to the conservative management which includes; splenic torsion, and subsequent abscesses, gangrene, or rupture, also there is a possibility of development of acute pancreatitis, pancreatic tail necrosis, and upper gastrointestinal bleeding due to esophageal varices (14).

The use of laparoscopic surgery for the management of wandering spleen is preferred and getting more popular as it offers less pain, faster returns to work, and better cosmesis (15).

When the wandering spleen was diagnosed before the development of complications, the choice goes with the laparoscopic splenopexy which could be done by multiple methods like splenic hilum fixation, splenopexy with extraperitoneal pouch, or splenic fixation with absorbable mesh (16,17).

Splenopexy should be highly considered in children and young patients to avoid the future risk of overwhelming post splenectomy sepsis (18).

Alas, our case and due to the late presentation and the development of irreversible splenic ischemia and multiple infarctions, the only choice we had was to do laparoscopic splenectomy.

Conclusion

Wandering spleen is a rare case with different ways of presentation, may be difficult to diagnose, and the delay of diagnosis may cost the patient a spleen. We recommend keeping this rare entity in mind when facing cases with acute abdomen especially in children below one year, and females in the third decade of life.

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