Arab Journal of Gastroenterology 17 (2016) 49–52

Contents lists available at ScienceDirect

Arab Journal of Gastroenterology

journal homepage: www.elsevier.com/locate/ajg

Case Report

Wandering spleen in the pelvic region in an adult man with symptoms of acute abdomen

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ARTICLE INFO

Article history:
Received 5 November 2013
Accepted 5 June 2015

Keywords:
Wandering spleen
Torsion
Abdominal pain
Splenectomy
Computed tomography (CT)

ABSTRACT

Wandering or ectopic spleen is a condition characterised by migration of spleen in the abdomen or pelvis. This anomaly is rare, with a reported incidence of <0.2%. It occurs mostly in women between 20 and 40 years of age. Clinical diagnosis is difficult because of lack of precise signs, symptoms, and nonspecific laboratory data. Diagnosis of a wandering spleen highly depends on the results of imaging studies such as abdominal ultrasound and abdominopelvic computed tomography (CT) scanning. Treatment includes surgery with the choice between splenopexy in a noninfarcted spleen and splenectomy when infarction has occurred. We report a rare case of wandering spleen in a 27-year-old man with infarction due to torsion of its pedicle, which was diagnosed by CT and treated by splenectomy. *Conclusion:* Despite the rarity of wandering spleen, the possibility of torsion of its long pedicle with acute splenic infarction should be considered in the differential diagnosis of acute abdomen.

Introduction

Wandering spleen is a rare condition, which was first described by the Dutch physician Van Horne in 1667 with confirmation by autopsy [1]. Since then several cases and case series have been reported. Wandering spleen is more common in children than adults, and is about 15 times more common in females [2].

Wandering spleen can be diagnosed at any age, but it occurs more frequently in women of childbearing age, [3] particularly in pregnant women due to hormonal changes [4]. This anomaly is rare and difficult to diagnose with a reported incidence of <0.2% [5].

We present a case of wandering spleen with its acute presentation of splenic vein thrombosis and acute splenic infarction due to twisted long pedicle in a 27-year-old man. We also present radiological images, which helped in diagnosis, operative technique, and histopathological images. The aim of this study is to increase clinical awareness of torsion of wandering spleen in men and the need of a rapid diagnosis and urgent management.

Case presentation

The patient is a 27 years old worker, mild cigarette smoker of 2 years, and father of a child. He complained of abdominal pain for 10 days, before admission to hospital, at the left-hypochondrium and suprapubic regions, dull aching in character and mild in severity. The pain was not radiating nor associated with any other gastrointestinal symptoms or fever. The patient sought medical advice from a consultant of Tropical Medicine and Gastroenterology in a private clinic on 4 June 2013. The patient had normal vital signs and general examination did not reveal any abnormality. Abdominal examination revealed a palpable, oval-shaped, firm, nontender, and smooth-surfaced intra-abdominal mass in the lower abdomen. Bedside abdominal ultrasound (US) examination revealed a normal liver, gall bladder, portal vein, hepatic veins, and kidneys and the absence of spleen in the anatomical position. An ectopic enlarged spleen (moderate enlargement: 10×20 cm) was found in the lower part of the left lumbar region, extending to the suprapubic region with normal splenic hilum. Complete blood picture liver enzymes, serum albumin, and hepatitis markers were ordered. Results of laboratory investigation revealed normal liver enzymes and serum albumin, negative HBsAg, and anti-hepatitis C virus antibodies (HCV). The complete blood picture provided the

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http://dx.doi.org/10.1016/j.ajg.2016.03.003
1687-1979/

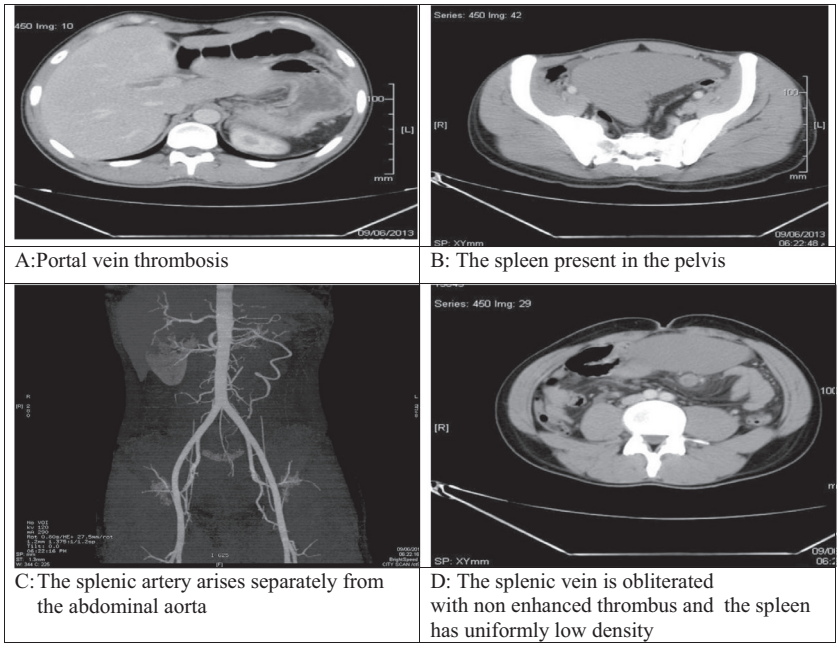
following data: Hb = 12.3 g/dl, RBCS = 4.35 × 10^{12}/L, HCT = 36.2%, MCV = 83 fL, MCH = 28 pg, MCHC = 34 g/dl, and WBCS = 5.26 × 10^{9}/L with normal differential count, but mild thrombocytopenia was found: PLT = 106 × 10^{9}/L. The patient was followed up with no indication for admission to hospital. On 9 June 2013, the patient returned to the consultant with a sudden severe, dull aching pain in the lower abdomen, which started that morning. Abdominal examination revealed tenderness in the lower abdomen and rigidity. The patient was admitted as an emergency case to the Tropical Medicine and Gastroenterology Department of Assiut University Hospital. The patient was in agony, had no fever, and with normal vital signs (BP: 110/70 mmHg; pulse: 90 beats/min; respiratory rate: 20/min). Abdominal examination revealed tenderness in the lower abdomen and rigidity. Provisional diagnosis of acute abdomen was made and the need for an urgent abdominal CT and complete blood picture and prothrombin time and concentration was established. Multiplanar contrast-enhanced MSCT of the abdomen revealed a normal liver and gall bladder and a well-defined linear hypodensity within the portal vein consistent with partially thrombosed portal vein (Fig. 1A). The spleen was seen within the pelvis and found to be moderately enlarged (Fig. 1B). The splenic artery arose separately from the abdominal aorta and passed into the splenic hilum within the pelvis, assuming a corkscrew appearance (Fig. 1C). The splenic vein was obliterated with nonenhanced thrombus and the spleen had uniformly low density (Fig. 1D). Normal pancreas, kidneys, urinary bladder, and pelvic organs were observed, and no lymphadenopathy was noted. In addition, mild ascites was observed. After complete examination, the following conclusions were made: ectopic enlarged spleen with splenic vein thrombosis and acute splenic infarction and partially thrombosed portal vein. The consultant who was on duty when confronted with these CT findings decided to perform an immediate surgery involving splenectomy. Before intervention, the complete blood picture provided the following data: Hb = 13.4 g/dl, RBCS = 4.5 × 10^{12}/L, HCT = 38.5%, MCV = 84.4 fL, MCH = 29.5 pg, MCHC = 34.8 g/dl, WBCS = 10.4 × 10^{9}/L, with neutrophil 85% and lymphocytes 13.5%, eosinophil 0.3%, and monocytes 0.9%; PLT = 110 × 10^{9}/L. Prothrombin time and concentration were 13.9 s and 74.7%, respectively, and INR = 1.18. Blood urea and serum creatinine were 3.2 and 104.4 μmol/L, respectively, and blood was prepared for transfusion. On 10 June 2013, splenectomy was done using the emergency operative technique under general anaesthesia. Operative details are as follows: midline exploration was made, and the spleen lies in the left-hand side of the abdomen, extending from the left subcostal margin to the pelvis and crossing the umbilicus. Mobilization of the spleen having a long twisted pedicle was done, and revealed a black spleen due to congestion and infarction (Fig. 2A–D). Resection of the spleen and ligation of the splenic artery and vein were done in close proximity to the tail of the pancreas. A tissue drain was put in the splenic bed and layered closure of the wound was done. The resected spleen was sent for histopathology, and the patient did not need blood transfusion during the surgery. Postoperative care was given for 3 days, during which he received ciprofloxacin and flazol infusion every 12 h, intravenous fluids in the form of glucose 5% and ringer lactate 500 cc every 12 h, pantazol injection every 12 h, and Clexane SC injection every 24 h. The patient was discharged on the fourth postoperative day. He received triple vaccination against Pneumococcus, *Haemophilus influenzae*, and Meningococcus. Follow-up abdominal US after 1 month revealed a patent portal vein.

Histopathology of the removed spleen revealed the area of infarction with congested vessels in the capsule (Fig. 3A) and other viable areas showed congested spleen with microthrombi (Fig. 3B).

Discussion

Wandering spleen is an extremely rare condition characterised by excessive mobility and displacement of the spleen due to congenital or acquired absence of splenic ligaments [6,7].

Wandering spleen occurs because of laxity or maldevelopment of its suspensory ligaments. There is improper formation of a long splenic pedicle with increased probability for abnormal fixation and torsion [8]. In acquired conditions, abdominal laxity, multiple pregnancies, hormonal changes with pregnancy, and splenomegaly have also been implicated [7,9,10].



A:Portal vein thrombosis

B: The spleen present in the pelvis

C: The splenic artery arises separately from the abdominal aorta

D: The splenic vein is obliterated with non enhanced thrombus and the spleen has uniformly low density

Fig. 1. (A): Portal vein thrombosis. (B): The spleen present in the pelvis. (C): The splenic artery arises separately from the abdominal aorta. (D): The splenic vein is obliterated with non enhanced thrombus and the spleen has uniformly low density.