Case Report

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Spontaneous Rupture of Wandering Spleen: Case Report

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Introduction

A wandering spleen is a rare clinical occurrence with fewer than 500 cases reported and an incidence of less than 0.2% [1]. wandering spleen is caused by either extreme laxity or absence of the normal ligaments that anchor the spleen to the left upper quadrant. Gravity also plays a role by allowing the spleen to descend into the lower abdomen attached by its vascular pedicle [2]. Symptoms depend on the degree of torsion and range from chronic abdominal pain in mild torsion to acute pain in severe torsion and infarction. Accurate clinical diagnosis is difficult because of the rarity of the condition and non-specific symptoms. Radiological evaluation includes usage of ultrasound, Doppler, abdominal CT or MRI depending upon availability or preference [3]. A wandering spleen can be either congenital or acquired. In the congenital condition the ligaments fail to develop properly, whereas in the acquired form the hormonal effects of pregnancy and abdominal wall laxity are proposed as determining factors .However, the precise etiology of the wandering spleen is not known [1]. We present a spontaneous rupture of a wandering spleen with severe torsion and infarction and abdominal pain without any history of trauma.

Case Report

PA 25 years old female present to emergency unit with 2 week history of progressive abdominal pain, recurrent constipation ,vomiting and loss of appetite. There was no history of melena, fever, and hematochezia and weight loss. On examination there was periumbilical and epigastria tenderness and a firm and tender mass in the right side of the abdomen without muscle guarding and rebound tenderness. The vital sign and laboratory results were all within the normal ranges, except decreased hematocrit (hemoglobin-8.4). The plain abdominal radiograph was un-remarkable while abdominal ultrasonography with color Doppler showed absence of spleen in its normal location in the left upper abdomen. Also it detects a heterogeneous hypoechoic capsulated mass with diameter of 175mm in right lower abdomen. Other organs of the abdomen were normal. Abdominal pelvic CT scan with and without contrast was recommended and findings was Absence of the spleen in its normal position in the left hypochondrium, and presence of large diameter mass (splenomegaly)in the right sub hepatic area(Wandering spleen) . Other organs of the abdomen were normal. Contrast-enhanced computed tomography (CECT) of the abdomen revealed whirlpool sign near the umbilicus. The splenic parenchyma showed abnormal enhanced areas, suggestive of splenic torsion and infarction.

A final diagnosis was wandering spleen with torsion of the vascular pedicle and infarction. The patient underwent a total splenectomy. During the laparotomy, an enlarged and infarcted mass was seen in right side of abdomen. The characteristic “whirlsign” can be seen in the area of the splenic vascular pedicle, indicative of torsion. Histological examination confirmed total infraction of the wandering spleen. The postoperative course was uneventful, and the patient was discharged on the 4th day after the operation.

Discussion

A wandering spleen is a rare but well-known entity. The incidence is < 0.2%. It is more common in females than males between the second to fourth decade of life and children [4]. Splenic weight >500 g in more than 8 out of 10 cases [5]. Interestingly, it has been reported that one out of three cases of wandering spleen appears in children bellow the age of 10 years old [7].

Wandering is characterized by splenic hyper mobility that results from elongation or mal-development of its suspensory ligaments. It is also known as aberrant, floating, displaced, prolapsed, ptotic, dislocated or dystopic spleen. Ectopic spleen, splenosis and accessory spleens are separate clinical entities and must be distinguished from it [5]. If the pedicle is twisted in the course of movement of the spleen, blood supply may be interrupted or blocked, resulting in severe damage to the blood vessels .Acute splenic torsion compromises venous outflow, which causes congestion and impairment of arterial

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inflow. Pain is originated from the splenic capsular stretching with rapid splenic enlargement and localized peritonitis [6]. Etiology is congenital or acquired. In case of congenital anomaly, a failure occur in fusion of the dorsal mesogastrium with the posterior abdominal wall during the second month of embryogenesis. Acquired risk factors that predispose to wandering spleen include pregnancy, trauma and splenomegaly [7]. Splenic torsion is usually clockwise. Complications of splenic torsion include: gangrene, abscess formation, local peritonitis, intestinal obstruction and necrosis of the pancreatic tail, which can lead to recurrent acute pancreatitis [8].

Wondering spleen had nonspecific symptoms such as abdominal pain that make diagnosis extremely challenging. As a result, radiologists play a major role in the diagnosis of this condition and its complications. Torsion may occur acutely and present with infarction or peritonitis. Chronic intermittent torsion can lead to pain, splenomegaly, and functional splenectomy. Contrast-enhanced computed tomography (CT) is the best imaging tool to make this diagnosis, although ultrasound may be used as well. Imaging findings on CT include identification of a spleen in an abnormal location, or with an abnormal orientation in the left upper quadrant. Often the wandering spleen is identified as a “comma” shaped mass in abdomen, with no normal left upper quadrant spleen [9].

Laboratory investigations are non-specific. Thrombocytopenia, through a mechanism of spleen enlargement secondary to compression of the splenic pedicle is rarely found [7]. The clinical presentation of wandering spleen is variable; it is either asymptomatic or noted incidentally during physical and radiographic examination or presents as acute abdomen due to torsion with subsequent infarction. The most common presentation is a mass with non-specific abdominal symptoms or intermittent abdominal discomfort due to congestion resulting from torsion and spontaneous detorsion [10]. Today, the only recommended treatment for wandering spleen is operation [7]. Splenectomy is indicated for infracted spleen and sometimes for huge splenomegaly precluding splenopexy. Splenopexy is the choice of treatment if the spleen is not infarcted [6]. Splenic preservation is highly recommended for young patients—those under one year of age up to those in their thirties—who are at particular risk for overwhelming post-splenectomy sepsis [10]. This should be appropriately followed up by the prophylactic vaccines against post-splenectomy sepsis syndrome. Ideally they should be administered before surgery; however, in emergencies this is not always possible [1].

Conclusion

In this case, splenectomy was done due to spleen infarction. Laparotomy was done in this case because of low experience at laparoscopy splenectomy. This report highlights the investigations and management necessary for a patient who presents with an ischaemic torted wandering spleen.

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