

Case Report

Portal Venous Thrombosis Developing after Torsion of a Wandering Spleen

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ABSTRACT

Torsion of a wandering spleen is a rare disease. The symptoms and signs of this condition are only present when the splenic pedicle torts. The etiological factors are the congenital absence of the ligaments that hold the spleen in its normal anatomic position, or the relaxation of these ligaments resulting from conditions like trauma and abdominal surgery. We aimed to present a rare case with torsion of wandering spleen that consequently developed thrombosis of portal vein and its branches, taking into consideration the relevant literature.

KEYWORDS: Acute abdomen, splenic torsion, thrombosis, wandering spleen

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INTRODUCTION

Wandering spleen is characterized by the abnormal positioning of the spleen that results from the congenital or acquired absence of the splenic ligaments associated with the long pedicle. The spleen is held in a fixed position in the subphrenic region by the gastrosplenic, splenophrenic, splenocolic and splenorenal ligaments. Wandering spleen does not generally present with symptoms if torsion of pedicle has not developed. However, its association with pedicle torsion may cause signs and symptoms of acute abdomen.^[1]

CASE

A 35-year old female patient presented at the emergency clinic with abdominal pain and generally poor health. Her anamnesis revealed lower abdominal distention from time to time and associated attacks of severe pain. Abdominal examination revealed a solid mass in the midline, under the umbilicus. The patient had tachycardia (heart rate: 115/ per minute), and her blood pressure was 90/60 mmHg. Ultrasonography (USG) confirmed that the Spleen was abnormally located in the pelvis without blood circulation, the dimensions of which could not be measured, possible torsion of spleen, and intra-abdominal free fluid existence that extended up to 5 cm at its maximum width. Doppler USG revealed a nearly complete thrombosis of the portal vein, and complete thrombosis of the right and left portal veins. Abdominal computerized tomographic scan revealed an abnormally located spleen, 18x12x10 cm in dimension, extending from umbilical region to hypogastric

region. Hemoglobin value was 6 g/dl, and the patient had an emergency surgery. The spleen was intraoperatively observed to be twisted 1080 degrees in a counter clock wise direction (3 complete tours). The spleen was first detorsioned followed by a splenectomy. Surgical exploration revealed a splenic vein full of thrombus along its whole length. A partial splenic vein excision and thrombectomy were performed, and the operation was concluded. Low-molecular weight heparin was administered postoperatively, and the patient was referred to the Gastroenterology clinic for further analysis, diagnosis and follow-up.[Figure 1,2 and 3]



Figure 1: intraoperative photo of wandering spleen

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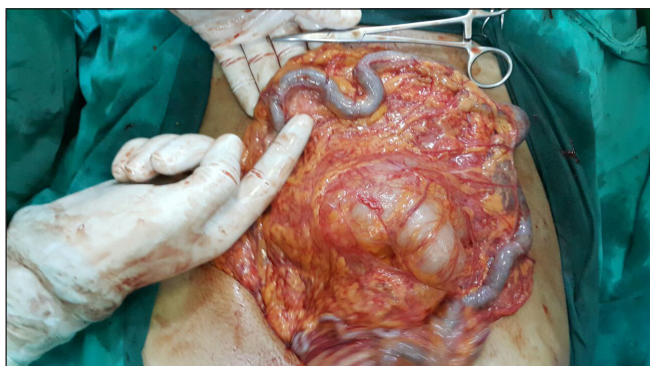


Figure 2: thrombosis of wandering spleen

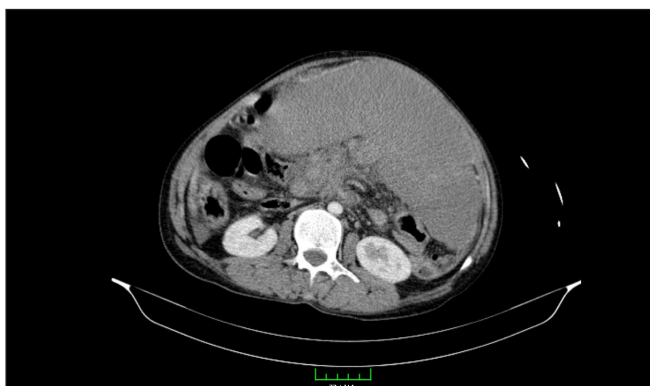


Figure 3: preoperative ct of wandering spleen

DISCUSSION

Splenorenal and gastrosplenic ligaments are the two most important ligaments that hold the spleen in its normal position.^[2] Wandering spleen exists as a result of the congenital absence of these ligaments, or due to their acquired relaxation resulting from some conditions.^[2] The main reasons for this condition have been reported as trauma, previous abdominal surgery, Splenomegally and muscular atrophy.^[3] The number of laparoscopic left adrenalectomies performed has increased recently, and some studies claim that it may also cause wandering spleen because of the wide dissection.^[4]

Wandering spleen is a rare pathology and most cases are asymptomatic. As a result its actual incidence cannot be determined; however in some studies, it is reported to exist in less than 0.5% of all splenectomies.^[1] Wandering spleen is most frequently observed in women between the ages of 20 to 40.^[5] The cases of wandering spleen are generally asymptomatic if pedicle torsion has not developed. It may be incidentally diagnosed at abdominal imaging for a palpable abdominal mass, and as a result of subsequent radiologic analyses.^[5] Abdominal pain may exist in acute, subacute or chronic forms, depending on the development process of the torsion. When acute torsion exists, ovarian torsion or other causes of acute abdomen have to be considered in the differential diagnosis.^[6]

Pedicle torsion can cause serious results. The most frequent of these are splenic enlargement from venous congestion and the subsequent development of spleen infarction, sepsis and acute pancreatitis. Rarely existing features of spleen torsion are intestinal obstruction, spontaneous or traumatic spleen rupture and gastric volvulus. The cases of splenic venous thrombosis have been reported in the literature but cases with intrahepatic portal venous thrombosis have not been reported.^[7]

Ultrasonography, computerized tomography, MRI and Scintigraphy are the widely used imaging methods for diagnosis. Abdominal USG reveals the empty splenic bed and an enlarged spleen in the ectopic location, and decreased blood flow on Doppler USG.^[8] In computerized tomography, diagnosis is confirmed when the spleen is not observed in its normal location, and when the splenic echogenicity is visualized in another region of the abdomen, especially in the pelvis. Tissue viability and its blood supply can be assessed and pedicle torsion can be visualized by contrast tomography.^[9] Portal venous thrombosis can be established by USG and CT. Our case was also diagnosed as portal venous thrombosis by the use of USG and CT. There is only one similar case reported in the literature.^[10]

In cases of torsion of wandering spleen, the treatment principally recommended is splenectomy, but only if splenic infarction and necrosis have not developed. The surgeon will select splenic conservation surgical methods by considering whether capsulated bacterial infections may develop after splenectomy. Splenectomy is essential if splenic infarction and necrosis have developed. Our case revealed splenic necrosis and thus splenectomy was performed.

In conclusion, wandering spleen should be considered in cases of lower abdominal mass existing with intermittent pain. Elective splenectomy is the choice of treatment in cases where there is no torsion. This procedure will prevent the need for a splenectomy, and possible life-threatening complications.

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Conflicts of Interest

There are no conflicts of interest.

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