Case Report

Wandering spleen with torsion and infarction: A case report

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Abstract

Wandering spleen, also known as ectopic spleen, is a rare condition in which the spleen’s anatomical location is other than its fixed position in the abdomen’s left upper quadrant. The cause of such an abnormality could be due to congenital or acquired factors, which could ultimately lead to torsion and splenic infarct. Given the nonspecific clinical symptoms and the potential complications associated with wandering spleen, computed tomography scans provide a crucial means for proper diagnosis. In this article, we report the case of a 16-year-old female with a diagnosis of wandering spleen with torsion and splenic infarct.

Keywords:
Spleen
Wandering spleen
Ectopic spleen
Torsion
Infarction

Introduction

The spleen is an intraperitoneal organ usually situated in the left upper quadrant of the abdomen; however, in the instance that it is not found in its typical location or orientation, it is referred to as a wandering or ectopic spleen [1]. The cause of this condition is associated with ligamentous hyperlaxity or absence, which can often be acquired through pregnancy, splenomegaly, or through congenital factors [2]. Due to the ligament’s laxity, the vascular pedicle is elongated, often leading to splenic torsion and infarction, which can ultimately lead to necrosis, ischemia, and even splenic rupture [3]. Given the nonspecific clinical symptoms related to wandering spleen, computed tomography (CT) imaging is critical for an accurate diagnosis [4].

Case report

A 16-year-old female presented to her local hospital with severe periumbilical abdominal pain. A CT scan revealed that the spleen was located in an inverted position in the right lower quadrant, with swirling of the mesenteric vessels leading to the splenic pedicle, as well as the splenic artery towards the splenic hilum in the right lower quadrant before a sudden cut-off (Fig. 1). Subsequently, a diagnostic laparoscopy con-

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A 16-year-old female presented to her local hospital with severe periumbilical abdominal pain and a CT was done to better define the cause of the patient's symptoms. The CT scan demonstrated a torsed spleen situated in the pelvis with swirling of the mesenteric vessels leading to infarction of the wandering spleen. (A) CT scan through the upper abdomen shows a normal liver and a distended stomach with no evidence of the spleen. (B) CT scans through the mid-abdomen demonstrate the swirling of the mesenteric vessels (arrow) consistent with low flow to the spleen. (C) CT scans through the pelvis demonstrate a low-density mass in the pelvis (S) which was an infarcted ectopic spleen. (D, E) CT scans in coronal plane nicely define the infarcted wandering spleen in the pelvis (S) with haziness by splenic hilum due to twisting of the mesenteric arcade (arrow).

Firmed the diagnosis of a torsed wandering spleen. As a result, the patient was brought into the operating room where the spleen was found to be torsed upon itself 720 degrees around an abnormal vascular pedicle. Following complete detorsion, there were no sign of perfusion; therefore, a splenectomy was performed. Postoperatively, the patient was well with no reports of abdominal pain, and with her incisions healing adequately.
Discussion

This article reviews a case of wandering spleen, an extremely rare condition in which the spleen, normally found in the left upper quadrant, is found in an abnormal anatomical position. The spleen is fixed into position by the splenorenal, splenocolic, and gastroepiploic ligaments; however, the hyperlaxity or absence of the peritoneal ligaments, due to either acquired or congenital factors, can cause the spleen to shift to a more caudal location [1,5]. As a result of the ligament’s hyperlaxity, the vascular pedicle is abnormally elongated leading to torsion, which can range from mild (90°) to severe (2160°) [6], and splenic infarction. Correlated with a strong female predominance, especially in women of reproductive age [7], the diagnosis of ectopic spleen presents a challenge due to its nonspecific symptoms.

We report a 16-year-old female who presented with severe abdominal pain and an abdomen that was firm and tender to palpation, especially in the right lower quadrant, as well as reflexive or voluntary guarding. A subsequent CT scan and diagnostic laparoscopy showed a 720° torsed, ischemic, and completely necrotic spleen. Consequently, the patient underwent a laparoscopic splenectomy, the treatment of choice in cases with splenic infarction, necrosis, or unreducible torsion [5].

Due to the broad symptoms and potential complications associated with wandering spleen, including sepsis, splenic rupture, and acute pancreatitis [3], CT is considered the preferred diagnostic tool for this condition. Typically, the combination of the absence of the spleen in the left upper quadrant and a mass in the abdomen indicates an ectopic spleen [2,8].

Patient consent

The patient reported in the manuscript signed the informed consent/authorization for participation in research which includes the permission to use data collected in future research projects including presented case details and images used in this manuscript.

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