Laparoscopic Repair of Gastric Volvulus Associated with Wandering Spleen in an Adult: Report of a Case

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Abstract

Gastric volvulus is an uncommon entity that may rapidly progress to infarction and necrosis of the stomach. We herein report the case of a 67-year-old man with acute gastric volvulus in association with wandering spleen. Following a reduction of the volvulus with a nasogastric tube, laparoscopic gastropexy was performed. Pediatric cases of gastric volvulus and a concurrent wandering spleen have been described, but to the best of our knowledge, no adult cases have previously been reported.

Key words Gastric volvulus · Wandering spleen · Laparoscopic repair

Introduction

Gastric volvulus is a rare condition comprising an abnormal rotation of the stomach along the longitudinal (organoaxial) or transverse (mesenteroaxial) axis. This condition is usually secondary to other causes, such as paraesophageal hernia, traumatic diaphragmatic hernia, or diaphragmatic eventration.

Wandering spleen is another rare condition that shares a common etiology with gastric volvulus. We herein present an unusual case of adult gastric volvulus associated with wandering spleen that was treated laparoscopically.

Case Report

A 67-year-old man presented with an acute onset of abdominal distension and vomiting. His past medical history was notable only for schizophrenia. The patient had experienced a similar episode of abdominal symptoms 6 months earlier. The symptoms resolved spontaneously and no further evaluation was performed at that time. In the emergency room, the blood pressure was 110/70 mmHg, heart rate 66 beats/min, and body temperature 37.1°C. Physical examination revealed a distended abdomen with mild epigastric tenderness. Plain abdominal radiography in a left decubitus position demonstrated a markedly gas- and fluid-distended stomach (Fig. 1). A nasogastric (NG) tube was put in place immediately and thereafter the abdominal distension was improved. Because the stomach size decreased after the insertion of the NG tube, we performed an abdominal computed tomography (CT) scan to determine the etiology of gastric dilatation. The CT scan revealed a high greater curvature, a lowering of the gastric fundus, and a dorsally displaced spleen (Fig. 2). These findings confirmed the diagnosis of mesenteroaxial volvulus of the stomach and wandering spleen. Elective surgery was scheduled during the same admission. For this patient, a laparoscopic approach was chosen. Four laparoscopic ports were placed. A 12-mm port was inserted at the umbilicus and three 5-mm ports were placed in the bilateral upper quadrants and mid epigastric area. The volvulus of the stomach had already been reduced, and the spleen was found to be easily mobile. The spleen was attached to the stomach and the splenic flexure of the colon with fragile ligaments, but no splenophrenic, phrenocolic, or splenorenal ligaments were present. The stomach was anchored to the diaphragm and the lateral abdominal wall of the left upper quadrant with four interrupted nonabsorbable sutures (Fig. 3). The postoperative course was uneventful and the patient was discharged 5 days postoperatively.

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Gastric volvulus is defined as a torsion of more than 180° of the stomach around the short or long axis. Volvulus can be categorized into two types. Organoaxial volvulus is the most common form and is caused by eventration, diaphragmatic hernia, pyloric obstruction, adhesions, or enlarged esophageal hiatus. The less common mesenterioaxial volvulus is characterized by rotation around the transverse axis, is often idiopathic, and is not associated with a hiatal defect. In adult cases, paraesophageal hernias are the most common cause of gastric volvulus. Gastric volvulus is also a known comorbidity in patients with wandering spleen.

We identified 27 cases of gastric volvulus associated with wandering spleen in the English literature based on a Medline search up until December 2005, all of which were pediatric cases (Table 1).

Wandering spleen involves the migration of the spleen from the normal location in the left upper quadrant of the abdominal cavity. Both congenital and acquired mechanisms have been proposed to explain the etiology of this condition. A congenital abnormality of the splenic ligaments, which results in an incomplete or total failure to attach to the peritoneal surface, is a common etiology in pediatric cases. Conversely, ligamentous laxity due to hormonal changes or splenomegaly is often described in adult cases. In pediatric cases