

Laparoscopic treatment of a rare cause of acute abdomen; primary omental torsion

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ABSTRACT

Primary omentum torsion is one of the diseases of the omentum that can lead to an acute abdomen. In this case report, primary omentum torsion was detected in a patient admitted to the emergency department with abdominal pain and was operated on due to acute abdomen findings, and its laparoscopic treatment will be explained. The purpose of the case presentation is to emphasize the necessity that primary omental torsion should be considered in acute abdomen patients whose history and physical examination do not comply with specific pathologies. Laparoscopic surgery can help with both the diagnosis and treatment of this unusual condition.

Keywords: Acute abdomen; laparoscopy; omental torsion.

Introduction

Omental torsion is one of the rare conditions causing acute abdomen.^[1] As can be primary or may develop due to omentum-derived pathologies and adhesions.^[2] It can be diagnosed preoperatively with the development of imaging methods or with laparoscopy.^[3] In this case report, a patient operated on due to acute abdomen, and laparoscopic excision of omental torsion was presented.

Case Report

A 32-year-old male patient was admitted to the emergency department for 3 days of abdominal pain and was evaluated. The abdominal examination of the patient revealed that bowel sounds were decreased and rebound in the right upper and lower quadrants. The patient stated that his pain started 3 days ago and became more severe. There

was no symptoms of nausea, vomiting, or anorexia. There were no known illness, medication, or surgery. Leukocyte count $11.3 \times 10^3/\mu\text{L}$, c reactive protein: 63.5 mg/L, alanine aminotransferase: 75.9 IU/L, other biochemical parameters were normal.

A report of computed tomography (CT): revealed tubular structure adjacent to the hepatic flexure on the right side and the possible diverticulum in this area, a fecaloid appearance was observed within the terminal ileal loops, the appendix was located in the right lower quadrant (Figs. 1a, b). The patient was taken into operation for acute abdomen, and diagnostic laparoscopy was performed. In the right upper quadrant, the omentum fragment was ischemic and necrotic (Fig. 2a).

On exploration, it was observed that the omentum rotated three turns around its long axis and the distal section



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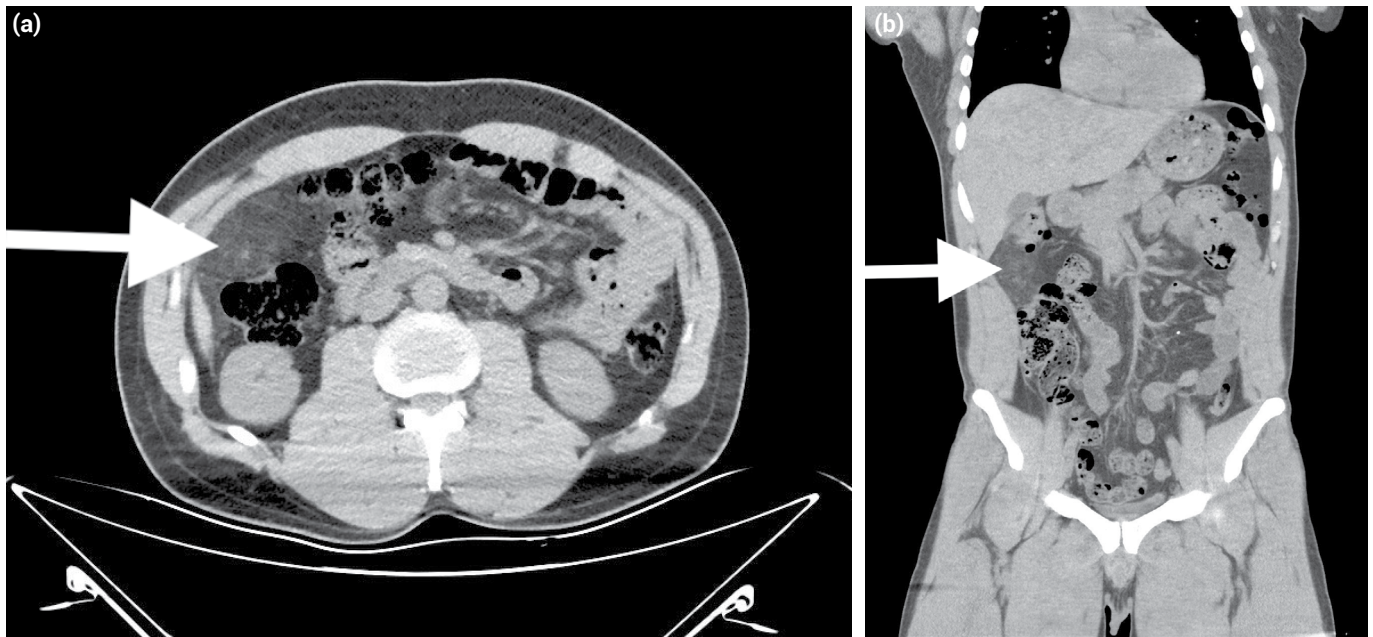


Figure 1. (a) Axial image of abdomen CT scan: a local mass of fat density (white arrow). (b) Coronal reformat image of abdomen CT scan: a fatty encapsulated mass (white arrow).

remained ischemic (Fig. 2b). The necrotic omentum fragment was excised and removed at the 12-millimeter trocar site. In addition, an appendectomy was performed.

The patient, who had no problem in postoperative follow-up, was discharged on postoperative day 1. The skin sutures of the patient who had no complaints on the postoperative 10th day were removed. Pathology was reported as omentum with diffuse fat necrosis, fresh bleeding, and prominent congestion in vascular structures.

Discussion

Omental torsion accounts for only 1.1% of all acute abdominal pain cases in adults and children. It is common-

ly seen in male patients aged between 30 and 50 years.^[4] Omental torsion is classified as primary or secondary. Secondary torsion is common, and it is generally related to conditions such as adhesions, cysts, inguinal hernia, inflammation, previous laparotomy, trauma, or tumor.

The etiology of primary torsion of the omentum is unclear. Some anatomical malformations are considered to be predisposing factors to torsion: The presence of tongue-like protrusions and bifid and accessory omentum in the greater omentum, abnormal vascular blood supply, vascular bending, and lastly, irregular omental pad, which is mostly observed in obese patients. Obesity is a common risk factor for primary torsion and approximately 70%

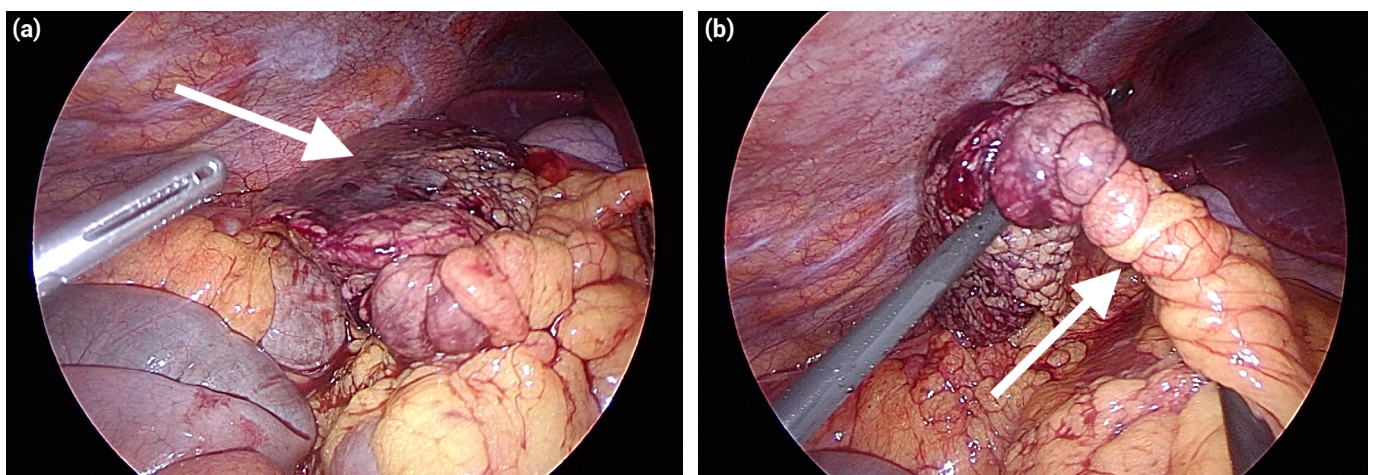


Figure 2. (a) The ischemic part of the omentum (white arrow). (b) The omentum part of its rotated of three turns around its long axis (white arrow).

of patients with omental infarction were obese.^[5] In our case, the body mass index was 24.1, and it was inconsistent with the literature. Our patient was evaluated in favor of primary torsion since he had no previous surgery and no adhesion during exploration.

About 80% of patients with the omental torsion present with acute onset severe abdominal pain and tenderness, which is localized on the right side of the abdomen.^[6] Gastrointestinal symptoms such as nausea, anorexia, and vomiting are rare. It is very difficult to be diagnosed accurately preoperatively and clinically. Omental torsion can mimic other acute pathologies, including acute appendicitis, acute cholecystitis, diverticulitis, perforated duodenal ulcer, abdominal wall hematoma, intestinal obstruction, and gynecological disorders.^[7] An accurate preoperative diagnosis has been documented in only 0.6–4.8% of cases. Diagnosis is usually made intraoperatively. However, the preoperative diagnosis can be accurately determined using CT. Tomography findings reported in omentum torsion are observed as a well-defined, oval heterogeneous mass.^[8]

A definitive diagnosis could not be made by evaluating the abdominal tomography taken under emergency conditions in our case. The operation was decided because the patient's pain persisted, and the acute abdomen findings did not regress on physical examination. Although treatment with open or laparoscopic surgery has been shown in the literature, laparoscopic treatment is generally preferred in recent years.^[9–11] In this patient, we completed the treatment laparoscopically without any complications.

Conclusion

Primary omental torsion is one of the uncommon causes of acute abdomen. Despite the development of imaging methods, the diagnosis may not be accurate in the preoperative period. Omental torsion should be kept in mind in patients with acute abdomen whose history and physical examination are incompatible with other reasons. Laparoscopic surgery can be available for both diagnosis and treatment of this uncommon condition.

Disclosures

Informed Consent: Written informed consent was ob-

tained from the patient for the publication of the case report and the accompanying images.

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Conflict of Interest: None declared.

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