

Primary Torsion Of The Lesser Sac Omentum

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Citation

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Abstract

Omental torsion is rarely diagnosed preoperatively. Knowledge of the entity is important to the surgeon because it mimics the common causes of acute surgical abdomen. We present a case of acute abdominal pain in a young lady with torsion of a segment of lesser omentum being diagnosed preoperatively as complicated peptic ulcer.

Torsion of the omentum is a condition in which the organ twists on its long axis to such an extent that its vascularity is compromised. Although omental torsion is rarely diagnosed preoperatively, knowledge of the entity is important to the surgeon because it mimics the common causes of acute surgical abdomen. Torsion of omentum is a known entity in medical literature but we had a case of torsion of a segment of lesser omentum that mimic peptic ulcer perforation.

CLINICAL PRESENTATION

A 28 year old lady was evaluated for sever abdominal pain associated with nausea and emesis that began 2 days ago. The pain began suddenly in epigastrium it was sharp without any radiation, it was localized to midline in epigastrium after a few hours, the pain could be controlled only by intravenous narcotic, it has no change after vomiting .her temperature was 37.5 C orally. The history was unremarkable for similar symptoms. A change of bowel habit was not reported. She referred to our center for more evaluation after 36 hours of pain beginning. Vital signs were normal despite evidence of physical discomfort. The abdominal examination revealed mild distention with tenderness and gardening in epigastium .No palpable mass was identified. White blood cell count was 10800 without a left shift, hemoglobin was 14 gm/dl, serum electrolyte and urinalysis were normal, C –reactive protein was +++, sedimentation rate was 25 mm /hour. Liver function tests were normal. Abdominal and chest roentgenograms were nonspecific, No free air in peritoneal cavity can be detected. Abdominal ultrasound was performed to rule out a biliary etiology. Gallstone or cholecystitis was not evident. Because of her deep localized tenderness, she had been laparoscoped. She had torsion of the lesser sac omentum that adhere to the greater curvature of the stomach near the pylorus. (Fig. 1) The infarcted segment was resected(fig.2).Pathologist confirms the infarction and necrosis of the omentum. She discharged from the hospital 24 hours later. She had an eventful postoperative period.

Figure 1

Figure 1: lesser omentum that adhere to pylorus

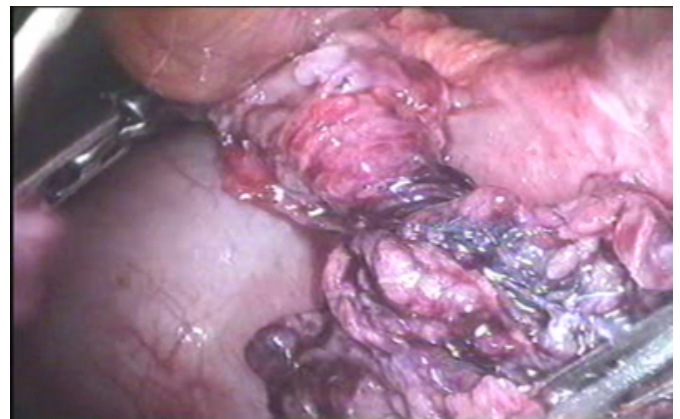
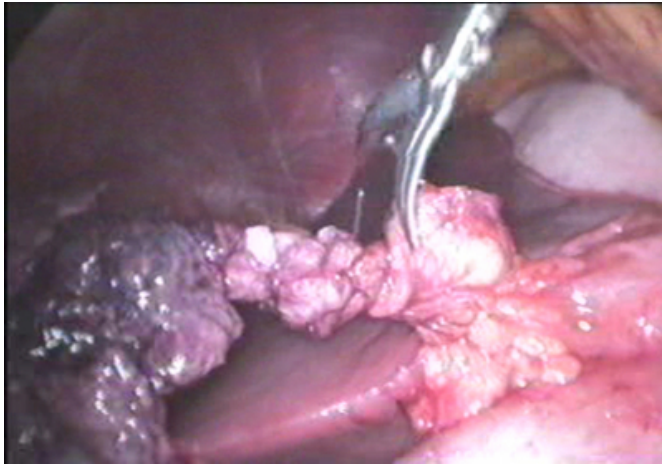


Figure 2

Figure 2: clockwise torsion of lesser omentum, ischemic portion after double ligation of pedicle resected.



DISCUSSION

Torsion of the omentum is a condition in which the organ twists on its long axis to such an extent that its vascularity is compromised. Although omental torsion is rarely diagnosed preoperatively, knowledge of the entity is important to the surgeon because it mimics the common causes of acute surgical abdomen. Torsion of the omentum is a condition in which the organ twists on its long axis, causing vascular compromise. This may vary from mild vascular constriction, producing edema, to complete strangulation, leading to infarction and frank gangrene. For torsion to occur, two situations must exist: First a redundant and mobile segment and second a fixed point around which the segment can twist. (1)

Eitel first described omental torsion in 1899; (2) since then, fewer than 250 cases have been reported. Torsion of the omentum may be primary or secondary. (3) In primary torsion, a mobile segment of omentum rotates around a proximal fixed point in the absence of any associated intra-abdominal pathology. Although the precise cause is unknown, both predisposing and precipitating factors in the pathogenesis of the condition can be identified. Factors that predispose a patient to torsion include anatomical variations of the omentum itself, e.g., accessory omentum, bifid omentum, irregular accumulations of omental fat (in patients who are obese), and narrowed omentum pedicle. Any redundancy of omental veins may lead to kinking and twisting around the shorter and tenser arteries. The higher incidence of torsion on the right side of the omentum is related to the greater size and mobility of that side. Precipitating factors are those causing displacement of the

omentum, including trauma, violent exercise, and hyperperistalsis with resultant increased passive movement of the omentum.

Secondary torsion is more common than primary torsion and is associated with preexisting abdominal pathology, including cysts, tumors, foci of intra-abdominal inflammation, post surgical wounds or scarring, and hernial sacs. Most cases of secondary torsion occur in patients with inguinal hernias.

In the view of pathophysiology: The omentum twists around a pivotal point, usually in a clockwise direction. (4) Venous return is compromised, and the distal omentum becomes congested and edematous. Resultant hemorrhagic extravasation creates a characteristic serosanguineous fluid in the peritoneal cavity. As the torsion progresses, arterial occlusion leads to acute hemorrhagic infarction and eventual necrosis of the omentum occurs. Spontaneous derotation may be possible and may explain omental adhesions in the right lower quadrant, which are often found during laparotomy and have no clear cause. (5)

Torsion of the omentum is difficult to clinically diagnose preoperatively. Accurate preoperative diagnosis was reported in the range of 0.6-4.8%. (6) Omental torsion usually occurs in adults (of either sex). Usually the twisted portion of the omentum tends to be localized to a right-sided segment, thereby giving rise to the sudden onset of pain and signs of peritoneal irritation on the right side of the abdomen. The condition may be associated with nausea, vomiting, or low-grade fever. An abdominal mass may be palpable in half of the patients. This right-sided acute pain and rebound tenderness is often mistaken for acute appendicitis, acute cholecystitis, or twisted ovarian cysts. But in this case the pain and rebound tenderness located in epigastrium in upper midline, so it mistaken for perforated peptic ulcer despite of vigorous searching for free air in the abdominal cavity or abnormal sonography of the abdominal cavity. At laparotomy, the finding of free serosanguineous fluid in association with a normal appendix, gallbladder, or pelvic organs should alert the surgeon to the possibility of omental torsion.

Recent reports suggest that ultrasonography and CT scan may show a characteristic appearance of twisted omentum; (7) however, because the disease may mimic other surgical emergencies, extensive radiological studies are usually not indicated. CT scanning may show a concentric distribution of fibrous and fatty folds converging radially toward the

torsion. (8) Ultrasonography, on the other hand, may show a complex mass and mixture of solid material and hypo echoic zones. (9)

Laparoscopy is a safe diagnostic and therapeutic modality. (10) Torsion of the omentum is usually discovered during laparotomy or laparoscopy for an acute abdomen. Consider omental torsion if preoperatively diagnosed acute appendicitis is not found and if the gallbladder and ovaries reveal no disease. In addition, the presence of serosanguineous fluid in the peritoneal cavity mandates inspection of the omentum to exclude torsion. Treatment consists of resection of the affected portion of the omentum.

Correct any disease process associated with secondary torsion. Preoperative differential diagnosis includes acute appendicitis, acute cholecystitis, and twisted ovarian cysts. In this case, the lesser sac omentum has a narrowed pedicle that was twisted about 720 degree clockwise and adheres to pylorus so the sign and symptoms mimic complicated peptic ulcer.

An incision centered over the site of maximum tenderness facilitates the operative diagnosis and eases resection of the infarcted omentum. When a healthy appendix is found, search for the cause of the abdominal pain. Inspect the cecum for a perforated diverticulum. The terminal ileum is then examined for Meckel diverticulum and regional enteritis. The pelvic organs are inspected and palpated for disease. Visualize the gallbladder and duodenum. Evaluate the mesentery for mesenteric lymphadenitis. Continue to explore the abdomen until the cause of acute abdominal symptoms has been identified. This may require extension of the original incision or creation of a new incision (11),

Postoperative recovery is usually rapid, and morbidity is minimal (12). If left untreated, the natural process of omental torsion is necrosis and fibrosis. With the advent of

diagnostic laparoscopy and the increased demand for laparoscopy for the evaluation of acute abdominal pain, omental torsion may become a more frequently recognized clinical entity.

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