

Torsion of lesser omentum: A rare presentation of acute abdomen

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A B S T R A C T

Intraperitoneal Focal Fat Infarction is a rare cause of acute abdomen. There are two types, Omental Torsion and Epiploic Appendagitis. We present a case of 19 years old male who presented to ER with severe pain in epigastrium and right iliac fossa. Clinical diagnosis of acute appendicitis was made, but epigastric pain remained unexplained. CT scan was reported as non-significant. Diagnostic Laparoscopy picked lesser omental infarction and acute appendicitis. Patient was successfully managed by Laparoscopic Surgery. Symptoms not explained by a single pathology should be thoroughly investigated. CT Scan is the best investigation. Laparoscopic surgery is an effective and safe approach for small segmental omental torsion.

Keywords: Abdominal Pain, Omentum, Torsion, CT Scan, Laparoscopic Surgery

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Introduction

In 1999 van Breda Viersmann introduced the term IFFI (Intraperitoneal Focal Fat Infarction) to widely describe various conditions like torsion/infarction of greater or lesser omentum and epiploic appendage. Their symptoms differ depending on various anatomical positions but focal fat tissue necrosis is common in all [1, 2]. Eitel described the Omental Torsion in 1899. A small number of cases have been reported since then. Men are 5 times more vulnerable than women as the latter can store more adipose tissue. Only 0.1 % cases have been reported in children [3].

We are presenting a case with a rare combination of pathologies i.e. Lesser Omental Infarction and acute appendicitis.

Case report

A 19 years old male presented to Emergency Department of our hospital with complaints of abdominal pain, which initially started in epigastric region and later

involved right iliac fossa for the past 4 days. Pain was gradual in onset, colicky in nature, reached score 7/10 and relieved by oral analgesics. He did not refer any complaints of nausea, vomiting, diarrhea, fever or urinary symptoms.

On physical examination his blood pressure was 110/70 mmHg, heart rate of 85 beats per minute, respiratory rate of 20 breaths per minute and temperature of 37 °C. On palpation of the abdomen he had tenderness and guarding in the epigastric region as well as right iliac fossa.

Laboratory investigations revealed total leukocyte count of 9300, Hemoglobin 12.8 g/dl, platelets 240000, glucose 108 mg/dl and creatinine 0.86 mg/dl. C - reactive protein was 1.43. Serum electrolytes were normal and Urine dipstick was negative.

A computed tomography (CT) scan of abdomen and pelvis was done in the evening which was reported by resident as inconclusive for appendicitis or any other

pathology. Despite using conventional analgesia, the patient had no relief of symptoms, so he was started on intermittent intravenous opioids.

As patient's clinical condition was not improving and diagnosis was uncertain, we decided to perform diagnostic laparoscopy. A segment of lesser omentum attached to the lesser curvature of stomach was rotated at 720 degrees around its own axis in the clockwise direction; part of omentum distal to level of rotation was gangrenous (Fig. 1-3).

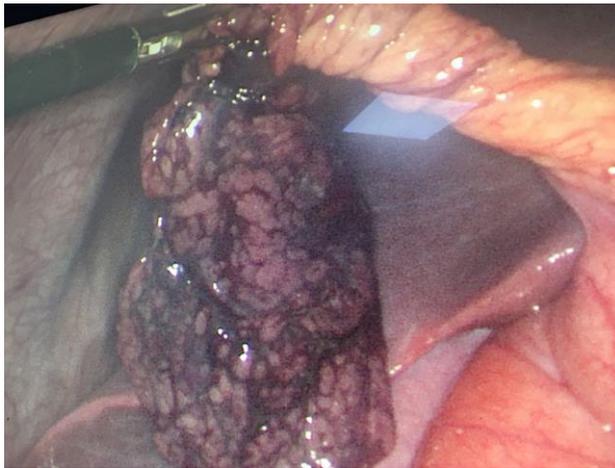


Figure 1: A laparoscopic view of the torsion of lesser omentum with distal infarction.



Figure 2: Another laparoscopic view of infarcted segment of lesser omentum.



Figure 3: The specimen of infarcted lesser omentum after excision.



Figure 4: The infarcted lesser omentum as well as appendix showing multiple fecoliths and signs of inflammation.

Appendix was acutely inflamed. Laparoscopic partial omentectomy and appendectomy were performed (Fig.4). The specimens were sent for histopathology. There was no other pathology detected in the abdominal cavity on laparoscopy. Patient remained stable postoperatively and was discharged home on 1st postoperative day. Patient came for follow up after one week and had recovered completely. Histopathology showed infarction,

hemorrhage and congestion on the omentum. The appendix was reported as acutely inflamed with multiple fecoliths.

Discussion

Torsion of the lesser omentum is an extremely rare condition which presents as acute abdomen. It is an infrequent entity appearing as Intraoperative Focal Fat Infarction.

Donhauser and Loke classified the omental torsion into "primary" and "secondary" 4. Secondary torsion is relatively more common than primary torsion and is usually associated with cystic lesions, tumours, hernias and intra-abdominal inflammatory processes [5].

It can also be classified as Unipolar torsion in which proximal part of the omentum remains fixed and Bipolar torsion in which both proximal and distal part of the omentum remain fixed [6].

Its diagnosis is difficult as there are no characteristic signs and symptoms. It can mimic variety of other pathologies like appendicitis, perforated duodenal ulcer, cholecystitis and diverticulitis [1, 2, 6].

The pathophysiology of primary omental torsion is not clear. Adams classified the pathogenesis of the primary omental torsion into two types of factors: Predisposing factors like Anomalies of omental blood vessels and obesity and Precipitating factors such as Hyperperistalsis, sudden changes of position like twisting movements of body, trauma, overeating and use of laxatives [7].

Clinical presentation may include nausea, vomiting, abdominal pain and low grade fever. It may cause signs of peritoneal irritation depending upon its location into the abdominal cavity. Leukocytosis may or may not be present [8].

As clinical diagnosis of this pathology is difficult so preoperative Ultrasound and contrast enhanced CT scan must be considered, though in many cases radiological findings may miss the diagnosis [7]. In our case, contrast enhanced CT was initially reported by on-call resident of radiology overnight was inconclusive. A review done the next morning by senior radiologist confirmed the laparoscopic diagnosis of omental infarct. A high index of suspicion is needed by the surgical team and proper

reporting of clinical features to the radiology team can help make a pre-operative diagnosis in such cases.

While small infarcts picked up on imaging can be managed conservatively, laparoscopic management is required in cases with major infarcts as in our case or if diagnosis remains uncertain [9, 10].

Conclusion

Symptoms not explained by a single pathology should be thoroughly investigated by different imaging techniques. CT Scan is the best investigation for the diagnosis of such rare pathologies. A high index of suspicion is needed by the surgical team and proper reporting by the radiology team can help make a pre-operative diagnosis in such cases. Laparoscopic surgery is an effective and safe approach for small segmental omental torsion.

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