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TORSION OF THE GREATER OMENTUM SEGMENT: A CASE REPORT

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ABSTRACT
A 37 year old male, otherwise fit and well, presented with right sided abdominal pain, and features of appendicitis. CT abdomen revealed circumferential thickening around the ascending colon, with a differential of appendigitis epiploicae or omental infarct. He underwent a diagnostic laparoscopy, which confirmed the torsion of a segment of greater omentum, warranting localized resection. The patient had uneventful recovery, and was discharged pain free the following day.

INTRODUCTION

Omental torsion is a rare cause of acute abdomen and sometimes requires surgery for immediate resolution of symptoms. The most common symptom is right lower abdominal pain; thus, it is often misdiagnosed as acute appendicitis, followed by acute cholecystitis and right-sided diverticulitis [1–3]. Some reports have suggested that abdominal computed tomography (CT) can be used to diagnose omental torsion. However, diagnosing omental torsion preoperatively is difficult [1, 2]. When the greater omentum is twisted around its axis, perfusion defects and vascular impairment of the organ are possible. Omental torsion has a spectrum which can range from simple oedema to ischemia and gangrene of the omentum [4]. Omental torsion can be either primary (idiopathic) or secondary, depending on the predisposing factors that cause it. Primary torsion of the omentum was first described in 1899. The primary form of omentum torsion is usually caused by rotation of the movable portion of the omentum and is influenced by several factors [5]. Here, we report a male patient with omental torsion diagnosed by contrast-enhanced abdominal CT before surgery, and confirmed further on diagnostic laparoscopy.

The main precipitating factors affecting omentum torsion include cough, sudden change in body position, especially in cases of increased bowel motion in a compressed state between the liver and the abdominal wall [6, 7].

Torsion of the greater omentum often appears on the right side mainly due to the larger size and mobility of the omentum. The torsion may include part of the omentum or the entire length [6, 7].

Case Report

A 38-year-old male, otherwise well, presents to the Emergency Department with a history of Right lower abdominal pain for 2 days. He also complained of intermittent nausea and anorexia. On examination, tenderness was noted in the right lower abdominal quadrant with Mcburney's and Murphy's being equivocal. His biochemical profile was unremarkable, except an elevated C-reactive protein (CRP) 5.4 mg/dl on admission. An ultrasound abdomen was organized with a presumptive diagnosis of appendicitis. While the ultrasound failed to identify the appendix, no other abdominal pathology was reported. Abdominal Computerized tomography (CT) was performed, and it reported stranding of the fat around the ascending colon, away from the expected position of the appendix, with a differential of appendigitis epiploicae or

omental fat infarct (Figure 1 & 2).

A repeat CRP was noted to be 14mg/dl. Due to ongoing localized peritonism, diagnostic laparoscopy was performed, which revealed right sided congenital ventral abdominal wall adhesions. A small necrotic segment of the right distal free end of the greater omentum was identified, with anti-clockwise twists adherent to the congenital adhesions. (Figure 3 & 4).Appendix and other abdominal viscera were unremarkable. The necrotic segment of the omentum was transected with an endoloop to the proximal healthy omentum for haemostasis. The specimen was retrieved via umbilical port in an endobag for histology. The post operative recovery was unremarkable with immediate resolution of pain, and the patient was discharged next day.

A surgical specimen showed congested haemorrhagic omentum with focal necrosis and no other significant pathological features.

Figure 1. CT abdomen (axial view) showing stranding of the fat around the ascending colon.

Figure 2. CT abdomen (coronal view) showing stranding of the fat around the ascending colon

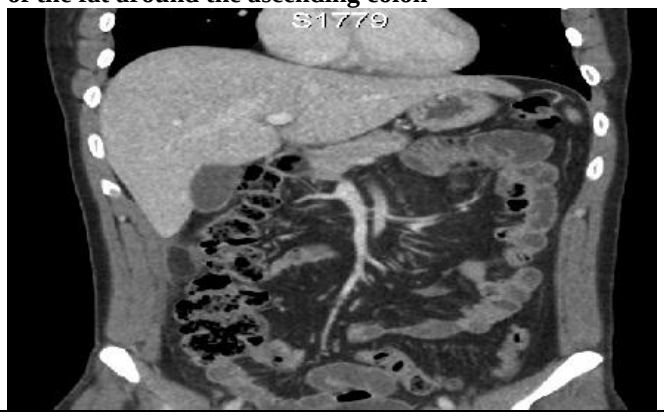


Figure 3. Laparoscopic view showing necrotic omental segment

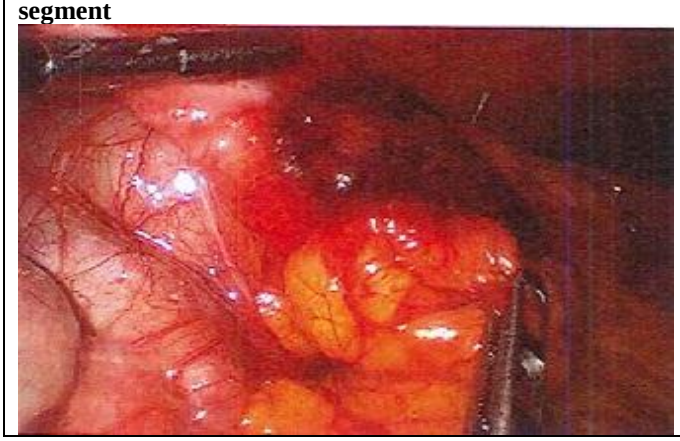
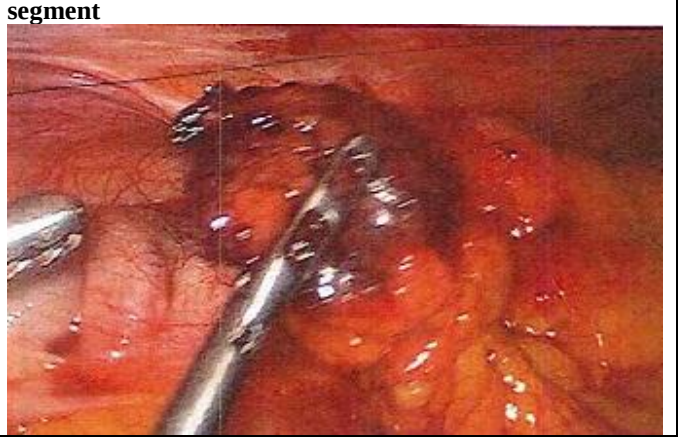


Figure 4. Laparoscopic view showing necrotic omental segment



DISCUSSION

Omental torsion can be extremely difficult to diagnose pre-operatively, as it often mimics other intra-abdominal pathologies, notably appendicitis [6]. Having said that it should be considered as a part of the differential for abdominal pain, especially right sided abdominal pain in relatively young individuals. The omentum twists around its longitudinal axis, leading to vascularity compromise, resulting in haemorrhagic extravasation, serosanguinous fluid production, necrosis and adhesion formation.

Omental torsion can be classified into primary or secondary torsion. In children, obesity is considered an important factor in omental torsion, especially when the body mass index is above the 95th percentile [7, 8]. Torsion of the greater omentum often appears on the right side mainly due to the larger size and mobility of the omentum. The torsion may include part of the omentum or the entire length [6, 7].

Omental torsion is difficult to diagnose preoperatively. It presents as acute unremitting abdominal pain located more often in the right iliac fossa similar to acute appendicitis or to the right abdominal side mimicking acute cholecystitis, pancreatitis and perforated duodenal ulcer [9]. CT scans play a important role in the diagnosis of torsion of the greater omentum [10,11]. To make the correct diagnosis, some authors recommend laparoscopy as the diagnostic and therapeutic method of choice in cases of omental torsion [12-14].

CONCLUSION

Greater omental torsion is difficult to diagnose preoperatively. It presents as acute abdominal pain located more often in the right iliac fossa. Omental torsion is a benign self-limiting disorder and in most cases can be treated conservatively avoiding laparotomy. When the patient's clinical, laboratory and radiological findings worsen or when diagnosis is doubtful surgical intervention such as laparoscopy is the proper method for diagnosis and treatment.

Competing interests: No

Author's Contributions

HM initiated the case series, performed the literature search, analysed and interpreted the patient data as well writing the manuscript. MMA performed the literature search. NA helped writing the manuscript. The authors have read and approved the final manuscript.

Consent

A formal consent was obtained from the patient for this publication.

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