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## Case Report

# Rare cause of postoperative acute abdominal pain: Giant omental infarct later complicated by colonic fistulization <sup>☆</sup>

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## ARTICLE INFO

## Article history:

Received 15 October 2021

Revised 30 October 2021

Accepted 2 November 2021

## Keywords:

Abdominal pain

Omentum

Infarct

Torsion

Necrosis

## ABSTRACT

Omental infarction is caused by vascular obstruction with resulting tissue ischemia, representing a rare cause of abdominal pain. It has been described as a rare complication of gastric bypass. It is important to recognize omental infarction and its possible complications as the management is usually conservative with surgery deferred to specific cases. We present the case of a 56-year-old male with a history of gastric adenocarcinoma who underwent esophagogastrectomy with Roux-n-y reconstruction and 3 months later presented with severe persistent abdominal pain, due to a path proven giant omental infarction. Patient later was complicated with a colonic fistula to the omentum.

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## Introduction

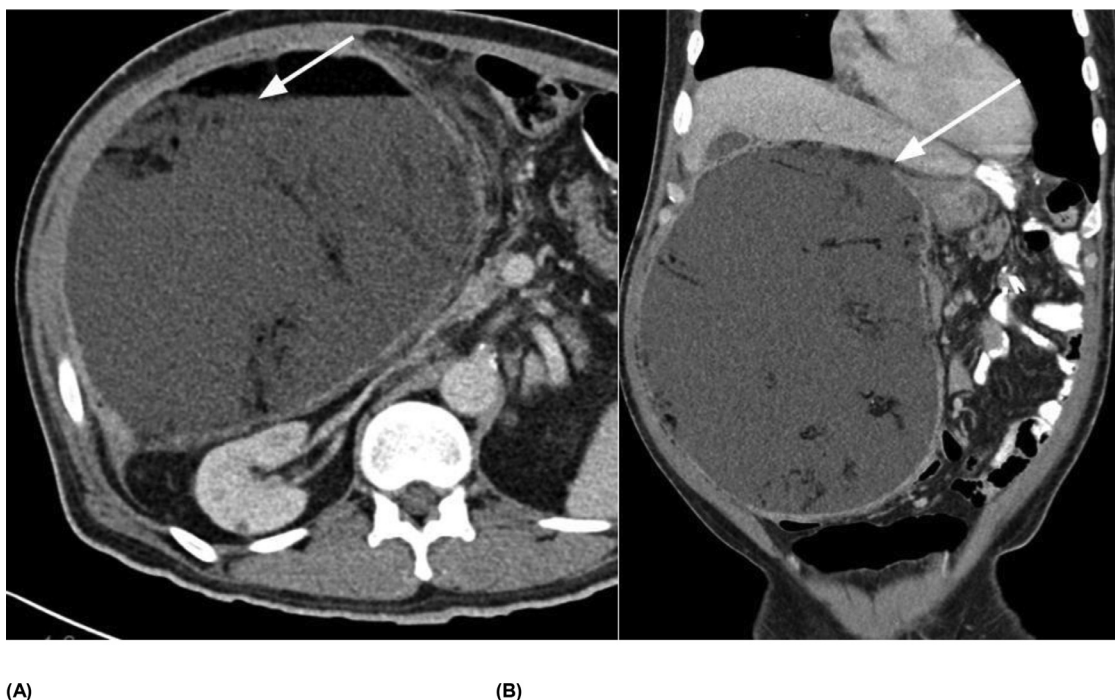
Omental infarction is a rare cause of acute abdominal pain. It is caused by vascular compromise of the greater omentum and is usually due to torsion. It may be classified as primary or secondary. Primary torsion is referred to when no pathologic cause is found; some authors attribute this to congenital vascular anomalies that increase the risk for venous thrombosis and is more commonly seen on the right side [1]. Secondary torsion is due to other intra-abdominal

pathologies such as omental cysts, adhesions, hernias, or tumors [2]. Presentation can be nonspecific with diffuse or right-side abdominal pain being the most common symptom. We describe the case of a 56-year-old male with a history of gastric adenocarcinoma post gastrectomy, who presented with persistent diffuse abdominal pain. CT showed a giant fluid collection with mesenteric fat stranding that was confirmed to be necrotic omentum after laparoscopic resection. The patient was further complicated with an intra-abdominal collection communicating into the ascending colon.

<sup>☆</sup> Competing Interests: The authors have declared that no competing interests exist.

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**Fig. 1 – (A, B) Axial and sagittal views of CECT obtained on admission demonstrating a large collection in the right hemiabdomen containing fluid and stranding fat (white arrows), in keeping with a giant omental infarction.**

## Case report

Patient is a 56-year-old male with a past medical history of hypertension, hyperlipidemia, and chronic kidney disease who was found to have a large gastric fundal mass (biopsy proven moderately differentiated adenocarcinoma). Patient underwent neoadjuvant chemotherapy with subsequent laparoscopic esophagogastrectomy with Roux-en-Y reconstruction, omentectomy, and upper endoscopy. Immediate postoperative course was uneventful, and the patient was discharged. Three months later he presented with abdominal pain and swelling in the right hemiabdomen. No other GI symptom was present. Labs were unremarkable. On physical exam, the right hemiabdomen was distended and firm with dullness on percussion while the left hemiabdomen was soft and tympanic. No tenderness on palpation.

Contrast enhanced CT abdomen (Fig. 1) and pelvis showed a large right intra-abdominal fluid collection with mesenteric fat stranding and reported as a giant omental infarction and surgical evaluation was recommended.

The following day, the patient underwent diagnostic laparoscopic lysis of adhesions, partial omentectomy, drainage of intra-abdominal collection, primary ventral hernia repair and intra-abdominal drain placement. On surgery, it was noted displacement of small bowel to the left by a large intra-abdominal collection in the right hemiabdomen which drainage was milky white appearing fluid resembling sterile fat necrosis. Pathology reported necrotic omentum.

Patient recovered and was discharged. Approximately 2 months later, he presented with diffuse abdominal pain of 1 week duration associated with nausea and vomiting. Labs were unremarkable. CT abdomen and pelvis (Fig. 2) showed an intra-abdominal gas and fluid collection with probable fistulization from the ascending colon that was later confirmed on repeated CT with oral contrast.

The following day, he underwent diagnostic laparoscopy with intra-abdominal washout, lysis of adhesions and drainage of hemorrhagic ascites and biopsy of small bowel implants (path was negative for malignancy). After this, he had an uneventful immediate postop and was discharged home.

## Discussion

Omental vascular obstruction leading to ischemia and necrosis is rare. Can be primary (idiopathic) or secondary to torsion by adhesions, cysts or tumors, iatrogenic vessel ligation (as presumed in our case), hypercoagulable states [3], vascular anomalies and trauma. Symptoms are usually nonspecific but there is predominance of progressive abdominal pain, most commonly in the right hemiabdomen [2]. Other symptoms are anorexia, vomiting and nausea.

Cases have been reported with omental infarction as complications after gastric bypass [4], rare but more common after antecolic Roux-n-Y limb creation with patients presenting after up to 3 weeks [5].



**Fig. 2 – (A) Sagittal view of CECT abdomen and pelvis demonstrating a gas and fluid collection in the right hemiabdomen with surrounding fat stranding and white arrows pointing to a clearly seen fistula between the ascending colon and a complex gas containing collection in the abdomen. (B) Axial view demonstrating a debris and gas containing collection in the right flank pointed by a white arrow collection in the abdomen.**

Ultrasound might be obtained initially and demonstrates increased echogenicity in a focal area of the mesenteric fat. The ideal imaging modality is CT, where findings include concentric hyperattenuating linear strands submerged in the intra-abdominal fat (omental torsion) more often on the right hemiabdomen and measuring more than 5 cm (if less than 5 cm, it is referred to as epiploic appendagitis). Chronic findings include a fat containing mesenteric mass with peripheral/rim calcifications [1].

Complications of omental infarction include the development of adhesences and abscesses for which patients require close clinical follow up [6]. The vast majority of cases are treated conservatively, and this is why radiologists and clinicians must be aware of this condition in order to avoid unnecessary surgeries. The rich omental vascularity allows for quick anastomoses resolving the ischemia in most cases [[7,8]]. Surgical treatment is recommended when radiological findings are nonspecific and there are persistent symptoms. Advantages of the laparoscopic approach include definitive diagnosis and fewer imaging follow ups; however, disadvantages include anesthesia risks and post procedural adhesions. If conservative management is elected, although there are no specific guidelines on follow up, some authors suggest obtaining a short term (3 months) follow up and a subsequent 1 year follow up with CECT [6]. Follow up CT usually shows progressive shrinkage and a hyperdense rim around a fatty core might develop.

### Patient consent

Informed consent was obtained from the patients for publication of this report.

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