

## Omental infarction: A rare cause of acute abdomen

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### ABSTRACT

Omental infarction is an uncommon but important cause of acute abdominal pain, which frequently mimics other surgical presentations. Low incidence and non-specific presentation contribute to Omental infarction being misconstrued for appendicitis, peptic ulcer perforation, acute pancreatitis or mesenteric ischemia. Its etiology remains uncertain, predisposing factors include obesity, strenuous activity, trauma, and sometimes idiopathic. Its diagnosis has traditionally been one of exclusion, based on intraoperative and pathologic findings. Here, we report the case of idiopathic omental infarction in a 51-year-old male. We discuss the diagnosis of primary omental infarction as well as the role of conservative and surgical management.

**Keywords:** Abdomen, Omental infarction, Pain.

Omental infarction is an uncommon but important cause of acute abdominal pain, which frequently mimics other surgical presentations. Infarction of the greater omentum occurs at a rate of 0.1% of all laparotomies performed for acute abdomen and estimated to have an incidence of 0.0016- 0.37% [1]. Obesity has been suggested as a precipitating factor for primary or secondary omental infarction as well as adult age (most frequently occurring at age 40-50 with only 15% of cases reported occurring in pediatric populations), male sex, heavy exertion and sudden changes in body position precipitate omental infarction [2]. Reductant omentum, vascular congestion, increased intra-abdominal pressure and hyperperistalsis due to overeating are mechanisms which have been postulated in the literature to account for omental torsion and infarction [3].

### CASE REPORT

A 51-year-old male presented to the emergency department with complaints of pain in upper and left half of the abdomen, bilious projectile vomiting and abdominal distension of 4 days duration. The patient also had absolute constipation for 2 days. He is not a known case of diabetes, hypertension and no significant past medical or surgical history. He is a smoker with 1 pack every day.

On examination, the patient was obese (Body Mass Index 40), febrile with a temperature of 101° F, pulse rate of 108/min and respiratory rate of 22/min. Abdominal examination revealed a silent distended abdomen with diffuse tenderness and guarding, rigidity present more on the left hypochondrium region. Liver dullness was not obliterated. Rectal ballooning was found on digital rectal examination. Bowel sounds were absent; hernial orifices free. Other system examinations revealed no abnormality.

With a clinical diagnosis of acute intestinal obstruction, the patient was resuscitated with intravenous fluids, nasogastric aspiration, catheterization and antibiotics. The blood picture showed total leucocytes of 14000/cmm with a predominance of neutrophil. C-reactive protein was elevated. There was a mild elevation of serum urea and creatinine. Blood sugar and liver function test were within normal limits. Screening for the viral test was negative. Abdominal sonography revealed dilated bowel loops with interloop collections. Plain X-ray abdomen showed dilated large bowel (Fig. 1).

In view of the clinical diagnosis and other investigations, a final diagnosis of large bowel obstruction was made and an exploratory laparotomy was done under general anesthesia. Intraoperative findings were grossly dilated cecum, hepatic flexure of the colon and the omentum attached to transverse colon completely infarcted forming a mass adhering the abdominal wall causing the obstruction and gangrene of the segment of the



Figure 1: X-ray of erect abdomen showing dilated large bowel.



**Figure 2: Infarcted omentum.**

distal transverse colon and splenic flexure of the colon (Fig. 2 and 3). Gangrene part was resected, the descending colon and transverse colon was mobilized. Both the loops were brought as loop colostomy. Infracolic Omentectomy was carried out. The patient recovered well and discharged on the 7<sup>th</sup> postoperative day. The histopathological report revealed congested omental tissue with focal necrosis confirming the diagnosis of omental infarction. The attached segment of colon showed no significant mural pathology. Closure of colostomy was done after 6 weeks. On a subsequent follow-up after 6 months, the patient was asymptomatic.

## DISCUSSION

Omental infarction is a rare cause of acute abdomen resulting from the vascular compromise of the greater omentum [3]. This condition has a non-specific clinical presentation and is usually managed conservatively. The term along with epiploic appendagitis is grouped under the broader umbrella term intraperitoneal focal fat infarction. The right-sided omentum is more commonly involved in omental infarction than the left due to increased length and mobility which leaves it more prone to tort upon itself along with long axis causing vascular compromise.

Obesity is a known risk factor; the hypothesis being that a fatty omentum may occlude its own distal atrial branches [4]. Two types of Omental infarction exists. Primary omental infarction where redundant omentum, vascular congestion, increased intra-abdominal pressure and hyper-peristalsis mechanisms have been postulated in the literature to account for omental torsion and infarction [5,6]. Secondary omental infarction is due to post-surgery, abdominal trauma and omental inflammation. In our case, there was no history of any abdominal surgery and the patient was obese, therefore we assumed that the present case is a case of primary omental infarction [7].

X-ray abdomen, ultrasound abdomen and Computerised tomography (CT) scan are mandatory as a pre-operative diagnostic tool for acute abdomen. However, sometimes radiographic studies are ineffective to make pin point diagnosis of omental infarction. The current therapeutic management of choice is diagnostic



**Figure 3: Complete omental infarction.**

laparoscopy followed by laparotomy if required to identify and remove the infarcted section of omentum [8,9].

## CONCLUSION

Primary omental infarction is a rare entity but it may be considered as a differential diagnosis in the presentation of acute abdominal pain. Due to an overlap in the symptoms and signs of omental infarction with other surgical causes of acute abdomen, intraoperative diagnosis by laparoscopy/ laparotomy has been reported to be more frequent than a pre-operative or non-operative diagnosis.

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