

## Case Report

# Primary Infarction of the Gastro-Colic Omentum and Review of the Literature

Abdul-Rahman Al-Mutairi<sup>1</sup>, Saleh Alenezi<sup>2</sup>, Mubarak Al-Kandari<sup>1</sup>

<sup>1</sup>Surgical Department, <sup>2</sup>Medical Department, Farwaniya Hospital, Kuwait

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### ABSTRACT

A 31-year-old male patient presented with epigastric pain and right-sided abdominal pain of one-day duration. He was later diagnosed as having a gastro-colic omental infarction (fixed part of the omentum). To our knowledge this is the first case to be reported in the

literature. In all other reports, infarctions were localized to the free omentum. We report this case to highlight the importance of omental infarction in the differential diagnosis of acute abdominal pain, since the management is mainly conservative.

KEYWORDS: gastro-colic, omental infarction, omentum

### INTRODUCTION

Omental infarction is a rare entity that must be considered in the differential diagnosis of patients presenting with acute or sub-acute abdominal pain. In the literature, all reported cases of the omental infarction are localized to the free omentum. In this case, we report a patient with primary infarction of the gastro-colic omentum.

### CASE REPORT

A 31-year-old male patient presented with epigastric pain and right-sided abdominal pain of one-day duration. There was no history of nausea, vomiting, fever, change in bowel habits or urinary symptoms. He denied a history of abdominal trauma, or symptoms suggestive of deep vein thrombosis or connective tissue diseases.

On physical examination, he was afebrile with a pulse rate of 80 per minute, regular and blood pressure of 130/80 mmHg. Abdominal examination revealed tender epigastrium and right lower quadrant without guarding. His abdomen was not distended and he had normal bowel sounds. Other systems examinations were unremarkable.

Laboratory investigations revealed normal serum electrolytes, urea, creatinine and liver enzymes. His serum amylase level was normal, but CBC showed leucocytes count of  $14 \times 10^9/L$ , otherwise normal. The abdominal ultrasound and the X-rays of the abdomen and chest were normal. A laparoscopy was performed because of the possibility of high appendix, perforating duodenal ulcer or torsion omentum.

At laparoscopy there was serous fluid in the right gutter. The omentum was in the right side of the abdomen and blood was seen in the gastro-colic

omentum. Given these findings a formal laparotomy was decided upon. The findings were a hemorrhagic infarction of the gastro-colic omentum, (the rest of the omentum was pale), and normal sub-hepatic appendix. At laparotomy, the gastro-colic omentum was excised, biopsies were taken from the free omentum and an appendectomy was performed. The histopathology examinations showed hemorrhagic fat infarction with extravasation. No malignancy was seen. The appendix was normal.

### DISCUSSION

Omental infarction is a rare cause of acute abdomen, described for the first time by Bush in 1896<sup>[1]</sup>. In 1972, Schnur *et al*<sup>[2]</sup> distinguished between primary idiopathic segmental infarction of the omentum and the secondary type caused by torsion, vasculitis or thrombophilia. The exact etiology and pathogenesis of the primary type is unknown. Anomalous arterial supply to the omentum, kinking of veins secondary to increase intra-abdominal pressure and vascular congestion after large meals might be predisposing factors<sup>[2]</sup>. The infarction usually involves the right side of the omentum and can occur at any age, although adults make up 85% of the cases<sup>[3]</sup>.

Clinically, patients usually present with acute or sub acute abdominal pain localized to the right lower quadrant or, occasionally, to the right upper quadrant. Patients usually seek medical attention one to six days after the onset of symptoms. Nausea and vomiting are rare and bowel motion is invariably normal<sup>[3]</sup>. Clinically, patients are afebrile and have a localized tenderness with a palpable mass occasionally. The white blood count is mildly elevated<sup>[4]</sup>.

Address correspondence to:

Abdul-Rahman Al-Mutairi (FRCSI), P.O. Box 18115, Farwaniya 81002, Kuwait. Fax: (965) 488-2617, email: arahman3@hotmail.com

Abdominal ultrasound (U/S) and CT-scan of the abdomen usually suggest the diagnosis, thereby avoiding the need for laparoscopy or laparotomy. Puylaret<sup>[5]</sup> described the U/S and the CT-scan features of the right omental infarction. On abdominal U/S, a moderately hyperechoic, solid, non-compressible, ovoid or cake-like lesion that corresponded to the spot of maximum tenderness was seen. On CT-scan the lesion is more circumscribed and showed fat inter-spread with hyper-attenuating streaks. The lesion was located anterolaterally on the right side of the abdomen, between the abdominal wall and the right half of the colon at or slightly above the level of the umbilicus. To avoid erroneous diagnosis of the omental infarction, a complete absence of local bowel wall thickening, which is almost always present in advanced appendicitis, diverticulitis, Crohn's diseases and other inflammatory diseases should be determined.

Histological appearance of omental infarction differs with the duration of insult. Initially, hemorrhagic infarction with fat necrosis is seen, followed by infiltration by lymphocytes, histocytes, and finally fibroblast resulting in fibrosis and scar formation.

Surgical resection of the infarcted omentum is the usual treatment when the diagnosis is not established preoperatively. But if cross-sectional imaging suggested the diagnosis, then patients can be managed conservatively, avoiding the need for

laparotomy, which is a potential cause of intra abdominal adhesions<sup>[6]</sup>.

## CONCLUSION

We report a case of gastro-colic omental infarction, which is to our knowledge, the first case to be reported in the literature. In all other reports, infarctions were localized to the free omentum in the right more than the left. This case highlights the importance of omental infarction in the differential diagnosis of acute abdominal pain mimicking appendicitis, perforating duodenal ulcer and torsion omentum, since the management in omental infarction is mainly conservative.

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