



Omental Infarction that Imitates Acute Cholecystitis

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ABSTRACT

Omental infarction is an uncommon cause of acute abdomen but one that clinically mimics more serious and common causes like appendicitis, pancreatitis and cholecystitis. With the increase in the use of abdominal computed tomography scan in the work-up for acute abdomen, more cases of omental infarction are being diagnosed preoperatively. This has also led to the observation that omental infarction is a self-limiting clinic which can be managed conservatively. Currently, conservative management and surgical approaches are the only treatment options for omental infarction, with no consensus as to the best treatment modality. Having a patient with both acute appendicitis and omental infarction simultaneously is extremely rare with only one adult reported in the literature thus far. Here is a presentation of 38-year-old class I obese female patient with acute abdomen and who was found to have acute appendicitis and omental infarction. The patient underwent laparoscopic appendectomy and partial resection of the infarcted omentum and had uneventful recovery and was discharged on the second postoperative day.

Keywords: Acute abdomen, appendicitis, omental infarction, laparoscopy

ÖZ

Akut Kolesistiti Taklit Eden Omental Enfarkt

Omental enfarkt; apandisit, pankreatit ve kolesistiti gibi daha sıklıkla karşılaşılan klinik tabloları taklit edebilen, nadir karşılaşılan bir akut abdomen sebebidir. Akut abdomen ayırıcı tanısında bilgisayarlı tomografinin kullanımının artmasıyla, preoperatif olarak daha çok omental enfarkt tanısı konulabilmektedir. Bu aynı zamanda omentum enfarktüsünün konservatif olarak yönetilebilen kendi kendini sınırlayan bir klinik olduğu gözlemine yol açmıştır. Şu anda konservatif tedavi ve cerrahi yaklaşım, omental enfarktüs için tedavi seçenekleridir ve en iyi tedavi yönteminin hangisi olduğu konusunda bir fikir birliği yoktur. Aynı anda hem akut apandisit hem de omental enfarktüsü olan bir hasta olması son derece nadirdir ve şimdiki kadar literatürde yalnızca bir yetişkin bildirilmiştir. Bu vaka sunumunda akut karın şikayeti olup, akut apandisit ve omental enfarktüsü olduğu saptanan 38 yaşında klas I obez kadın hasta bildirilmektedir. Laparoskopik apendektomi ve enfarktlı omentumun parsiyel rezeksiyonu uygulanan hasta sıkıntısız bir şekilde iyileşti ve postoperatif ikinci gün taburcu edildi.

Anahtar Kelimeler: Akut karın, apandisit, omental enfarkt, laparoskopisi

INTRODUCTION

Omental infarction (OI) is a rare cause of acute abdominal pain, which can be diagnosed more frequently with the use of radiological imaging facilities, especially computed tomography (CT) scan in the differential diagnosis of acute abdomen. The incidence has been reported as less than four cases per 1000 (1). Depending on the location of the infarct, the examination findings may resemble clinical presentations such as acute appendicitis, cholecystitis, pancreatitis, and gastritis.

The occurrence of both omental infarction and the clinical presentation of acute appendicitis is exceptionally rare, with only one documented case in the literature in-

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volving an adult patient (1). Presented is a case of a 38-year-old class +I obese patient who exhibited symptoms of both omental infarction and acute appendicitis. These conditions were initially overlooked in the abdominal ultrasonography (US) and CT scan reports. Informed consent was obtained from the participant and Helsinki Declaration rules were followed to conduct this study.

CASE PRESENTATION

During the initial abdominal examination of the female patient, who presented to the emergency department with two-day history of upper abdominal pain and had no prior medical conditions or surgical history, tenderness was identified in the epigastric region. The laboratory examination did not reveal leukocytosis. The CRP level was measured at 17 mg/dL, while ALT and AST levels were recorded at 105 U/L and 82 U/L, respectively. The intravenous contrast-enhanced abdominal CT (Figure 1) report indicated an appendix diameter of 6.5 mm. Considering the potential for early-stage acute appendicitis, clinical and radiological follow-up was advised. After initiating antibiotic treatment, the patient returned to the emergency department after two days due to worsening

upper abdominal pain. Subsequently, a consultation with the general surgery team was requested.

Repeated abdominal examination revealed tenderness and rebound in the right upper-middle quadrant of the patient who did not have nausea, vomiting, or fever. Vital signs were within the normal range. On repeated laboratory examination, CRP was 49 mg/dL, and there was no leukocytosis. The abdominal ultrasound report indicated an appendix diameter of 8.5 mm, with no compression, and the surrounding fat planes were described as having a “dirty” appearance. Intravenous contrast enhanced abdominal CT scan was repeated due to the rebound on the upper quadrant of the abdomen. Upon identification of an omental infarct situated in the right upper-middle quadrant (Figure 2) based on radiological reports and imaging results, the decision was made to proceed with diagnostic laparoscopy.

During the procedure, it was noted that the infarcted omentum had adhered to the upper middle quadrant, in proximity to the falciform ligament. This area exhibited hemorrhagic and necrotic alterations. No serosanguinous free fluid was detected within the peritoneal cavity. With the help of a laparoscopic power device, the omentum was dissected and separated from the anterior abdominal wall, and partial omentectomy and appendectomy were performed (Figure 3).

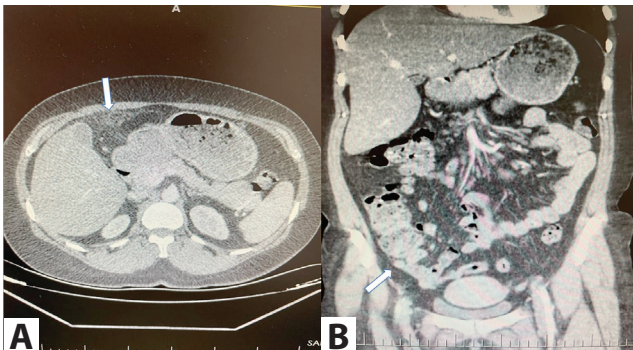


Figure 1. Contrast-enhanced CT scan of the abdomen conducted during the initial admission to the emergency department. **A)** Axial view: Thickened area adjacent to hepatic flexural segment of colon with fat stranding (white arrow). **B)** Coronal view: Appendicitis shown with white arrow.

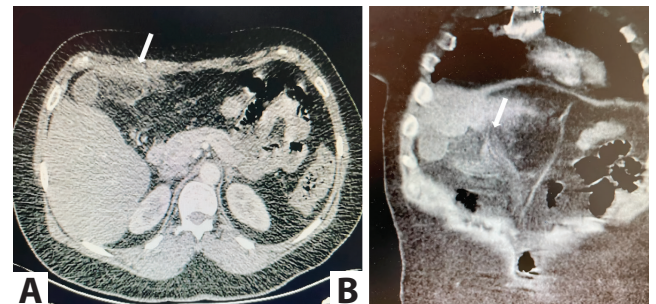


Figure 2. Contrast-enhanced CT scan of the abdomen conducted upon admission two days later, as the upper abdominal pain had not resolved. **A)** Axial and **B)** Coronal view: More obviously thickened area with fat stranding (white arrow).



Figure 3. **A)** Laparoscopic image showing necrotic omentum adhered to the anterior abdominal wall. **B)** Partial omentectomy material. **C)** Laparoscopic appendectomy.

The patient, who tolerated the postoperative (PO) regimen on the first day and experienced flatulence and stool discharge, was discharged on the second PO day, and no complications were noted during the clinical follow-ups. The pathology result indicated acute appendicitis along with active chronic inflammation in the omental region, fat necrosis, and hemorrhagic findings.

DISCUSSION

It has been reported that the preoperative diagnosis of omental infarction is made in only 0.6% to 4.8% of cases (2). Similar to our case, patients typically present within their third to fifth decades of life (3). The frequent occurrence of right-sided abdominal pain has been linked to the greater mobility of the omentum in this region, along with the presence of longer and thinner blood vessels (4).

Several etiological factors have been proposed for omental infarction, including local trauma, mesenteric vein congestion due to congestive heart failure, and intense physical exercise (5). Our patient was additionally categorized as class I obese, and in line with findings from the literature, the uneven distribution of omental adipose tissue in overweight individuals might have played a role as the focal point for torsion (6).

Due to the infrequent occurrence of omental infarction, there is currently no definitive consensus regarding whether the condition should be managed through conservative treatment or surgical intervention. Most selected cases can be managed conservatively with broad-spectrum antimicrobial therapy, adequate fluid resuscitation, and appropriate analgesia. However, aligning with the presented case findings, a review of the literature encompassing 28 adult case reports from 2000 onwards revealed an average onset of symptoms within 2.1 days, a notable rate of surgical interventions (75%), and an average hospitalization duration of 2.1 days (7).

CT is accepted as the gold standard for preoperative diagnosis in detecting limited fatty tissue inflammatory changes in the omentum from other intra-abdominal pathologies such as epiploic appendicitis and mesenteric panniculitis of omental infarction and in revealing its relationship with neighboring organs such as the colon and stomach (8). Based on an assessment of the patient's CT scan reports, a diagnosis of acute appendicitis and omental infarction was established. Given the presence of restricted rebound tenderness in the right upper middle quadrant during abdominal examination and the absence of response following a two-day antibiotic regimen, a decision was made to proceed with diagnostic laparoscopy.

The minimally invasive laparoscopic approach presents a safe alternative for patients unresponsive to conservative treatment or those exhibiting examination findings inconsistent with the diagnosis. Furthermore, it offers a notably less invasive option in comparison to procedures like a small McBurney incision, which does not allow adequate intra-abdominal exploration, or a wide midline incision. This approach is also associated with reduced postoperative pain and shorter hospitalization (9).

Unlike the data reported in literature previously, radiological and physical examination findings were inconsistent in our case and resulted in 48-hour time loss which is a very important duration in surgical conditions. Another unique feature of this case is coexistence of omental infarction and acute appendicitis detected in preoperative period that led to the decision of laparoscopic exploration.

CONCLUSION

Omental infarction can manifest with non-specific symptoms that mimic other abdominal conditions. Before considering surgical treatment, conservative treatment should be considered depending on the patient's clinical findings with appropriate imaging support within the first 24-48 hours. In case of persistent complaints despite appropriate treatment and a preliminary diagnosis inconsistent with examination findings, explorative laparoscopic surgery should be performed.

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