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### Omental Infarction: A Rare Cause of Abdominal pain

Eric Doane

*Rowan University*

Emily Nguyen

*Rowan University*

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# Omental Infarction: A Rare Cause of Abdominal pain

Eric Doane DO, Emily Nguyen MD

**Emergency Medicine Residency and Department of Emergency Medicine, Rowan University, SOM**

## Introduction:

Omental infarction is a rare cause of acute abdomen pain first described by Eitel in 1899 and has been described in the literature with total numbers ranging from 250-400 worldwide with many coming from individual case reports<sup>1</sup>. Risk factors for developing omental infarction are thought to be obesity, trauma, intense exercise or secondary to torsion from adhesions<sup>2</sup>. Historically, the diagnosis of omental infarction was made incidentally in the operating room for patients with an acute abdomen with a different suspected diagnosis. Most often being appendicitis with associated right lower quadrant abdominal pain and smaller subset from suspected diverticulitis and cholecystitis in the left lower and right upper quadrants respectively<sup>3</sup>. The increasing availability of high-resolution CT scans of the abdomen/pelvis has led to increased reports of omental infarction as a cause for an acute abdomen in the literature<sup>4</sup>. In this case report we present a case of idiopathic omental infarction found in a 28-year-old male who presented with left lower quadrant abdominal pain who was managed with conservative treatment. I will also discuss the recommended treatment guidelines based on the limited data in the literature many of which are from case reports and a recently published systematic review.

## Case Presentation:

A 28-year-old male with history of asthma presented to the emergency department with a one-day history of left lower quadrant abdominal pain. His symptoms started the night before with what initially started as left testicular pain that then migrated to the left lower quadrant and suprapubic region with most of his pain coming from the left lower quadrant. His symptoms progressively worsened into the next day which prompted his visit to the emergency department. At the time of presentation, he explained that his testicular pain has subsided partially, and complained only of some mild associated dysuria starting earlier that morning. He also endorsed a history of previous chlamydial infection in the past but denied discharge or known sexual contacts with confirmed infection or similar symptoms. Denied any recent trauma.

On physical exam, he was afebrile and nontoxic appearing with mild-moderate tenderness to palpation in the left lower quadrant and suprapubic region. Genitourinary exam revealed no testicular tenderness, swelling, erythema, discharge or evidence of inguinal hernia.

In terms of his labwork, a CBC, BMP as well as hepatic function panel and UA were otherwise normal and gonorrhea/chlamydia testing was also negative. Given his complaint of testicular pain, a testicular ultrasound was obtained, which revealed a small incidental left hydrocele and because of his left lower quadrant pain and concern for possible diverticulitis a CT abdomen/pelvis with contrast was obtained. CT scan revealed a 1.2 x 2.3 cm area of omental fat stranding consistent with an acute omental infarction. Throughout his stay in the emergency department, he otherwise reported only mild to moderate pain with stable vital signs. Given his well clinical appearance and mild symptoms the patient was managed conservatively with recommendations of over-the-counter anti-inflammatories and was also given prophylactic antibiotic coverage with Augmentin for seven days. He was also given close follow up with outpatient general surgery with strict return precautions if his symptoms worsened.



## Discussion:

The Omentum is a fat like structure formed from a fold of visceral peritoneum made up of greater and lesser parts that attach from the stomach and hang anteriorly and play an immunological role of limiting intraperitoneal infection. Omental infarction is a rare manifestation of acute abdominal pain that occurs when the gastropiploic vessels are compromised and can be associated with omental torsion of these vessels with movement of the greater omentum.

It has been reported in the literature as occurring mainly on the right side with presentations presenting as high as 88%<sup>5</sup>. This is thought to be explained by the tenuous blood supply of the distal branches of the gastropiploic veins in the right lower quadrant<sup>5</sup>. Because of this, omental infarction has been seen in the literature as an imitator for appendicitis but has also been an imitator for cholecystitis with right upper quadrant pain as well as diverticulitis with pain in the left lower quadrant as seen in this patient. Furthermore, omental infarction can be subdivided into primary vs secondary causes; with secondary causes coming from abdominal adhesions from previous surgeries or from trauma and primary causes being idiopathic as seen in this case.

Currently the literature consists of case reports and case series given its rarity and because of this there has been a lack of data to develop strong guidelines for treatment and management. In the past it has been managed surgically since it was diagnosed intraoperatively, but with increasing sensitivities of CT imaging, more cases are being diagnosed preoperatively. In a recent systematic review published in 2020, it compared conservative vs surgical treatment of cases diagnosed after CT imaging. In their systematic review 73.3% of patients were managed with conservative treatment of anti-inflammatories and prophylactic antibiotics and of these, there was a 15.6% failure rate that required subsequent surgical management. Risk factors for failure included younger patients 37.9 years +/- 15 years as well as leukocytosis >12,000 on admission. They also discovered in those receiving surgical management initially had decreased hospital stays, however patients who were febrile with signs of sepsis were more likely to be surgically managed<sup>1</sup>.

## Conclusions:

Omental infarction is a rare cause of acute abdominal pain presenting to the emergency department and there remains no specific guidelines to treatment given its rarity. From the literature most cases were managed conservatively with NSAIDs and prophylactic antibiotics with an 84% success rate<sup>1</sup> and this patient fit in this majority without complications. There however remains conflicting opinion on best management with some advocating for surgical management, citing reduced hospital stays and faster resolution of symptoms<sup>1</sup>. Further studies including prospective trials are still required for further clarifications for best treatment and management.

## References:

Editor: \*\*\*

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