SAS Journal of Surgery
Abbreviated Key Title: SAS J Surg
ISSN 2454-5104
Journal homepage: https://www.saspublishers.com

OPEN ACCESS

Visceral Surgery A

A Case Report of a Rare Cause of Acute Abdomen: Idiopathic Omental Torsion

Ahmed OUBIHI[1,2*], Chaimae SETTI[1,2], Abdesslam BOUASSRIA[1,2], Hicham EL BOUHADDOUTI[1,2], El Bachir BENJELLOUN[1,2], Khalid AIT TALEB[1,2], Ouadii MOUAQIT[1,2]

[1]Department of Visceral Surgery A, CHU Hassan II, Fez, Morocco
[2]Faculty of Medicine and Pharmacy, Sidi Mohammed Ben Abdellah University, Fez, Morocco

DOI: 10.36347/sasjs.2024.v10i07.024 | **Received:** 23.05.2024 | **Accepted:** 05.07.2024 | **Published:** 16.07.2024

***Corresponding author:** Ahmed OUBIHI
Department of Visceral Surgery A, CHU Hassan II, Fez, Morocco

Abstract **Case Report**

Among the causes of acute abdomen encountered in the emergency room, omental pathology remains rare and is little known by practitioners. Idiopathic omental torsion is part of it, whether primary or secondary, its clinical presentation is non-specific, including atypical abdominal pain and the main symptom. Which exposes one to an error or even a delay in diagnosis given the multitude of differential diagnoses. Abdominal CT remains the examination of choice to make the diagnosis. In case of doubt, surgical exploration, preferably laparoscopic, allows the diagnosis to be made as well as treatment by performing an omentectomy. The choice of therapeutic approach, conservative or omentectomy, remains controversial in the literature. In this article we highlight the diagnostic and therapeutic challenges of this entity through the case of a 53-year-old patient admitted for acute abdominal pain, whose investigations reveal an idiopathic omental torsion and also exposing the results of the two therapeutic approaches.

Keywords: Case Report, Acute Abdomen, Omental Torsion.

INTRODUCTION

Omental torsion is a rare situation, with poorly understood mechanisms, especially in a young population. A non-specific clinical-biological presentation often simulating the picture of acute appendicitis, especially in this age group of patients; Most cases in the literature have been treated surgically with apparently favorable long-term results [1, 2]. Through a case report of a 53-year-old female patient, admitted for pain in the iliac fossa and right flank, showing us the different diagnostic and therapeutic issues faced with omental torsion.

CASE REPORT

A 53-year-old woman with a history of diabetes and high blood pressure under oral medical treatment, with no prior surgery. Presents abdominal pain localized in the right flank, immediately intense without other associated signs, in particular no fever or transit disorders.

On admission to the emergency room, the physical examination reveals a conscious patient who is hemodynamically and respiratory stable, afebrile with pain. Abdominal palpation reveals tenderness of the right flank without other abnormalities on the remainder of the clinical examination. The biological assessment was normal apart from an elevated CRP of 58 mg/L.

An ultrasound was initially carried out, returning no abnormality, hence the addition of an abdominal CT scan with injection of iodinated contrast product to objectivate (figure 1):

- A localized infiltration of the greater omentum extended from the transverse colon to the anterior wall of the second portion of the duodenum, creating a pseudo-mass, the seat of an image of a whirlwind within it, first evoking a torsion of the greater omentum.
- The appendix is visualized without abnormality.
- Absence of deep lymphadenopathy.
- Intraperitoneal effusion of low abundance, fluid density, at the pelvic level.

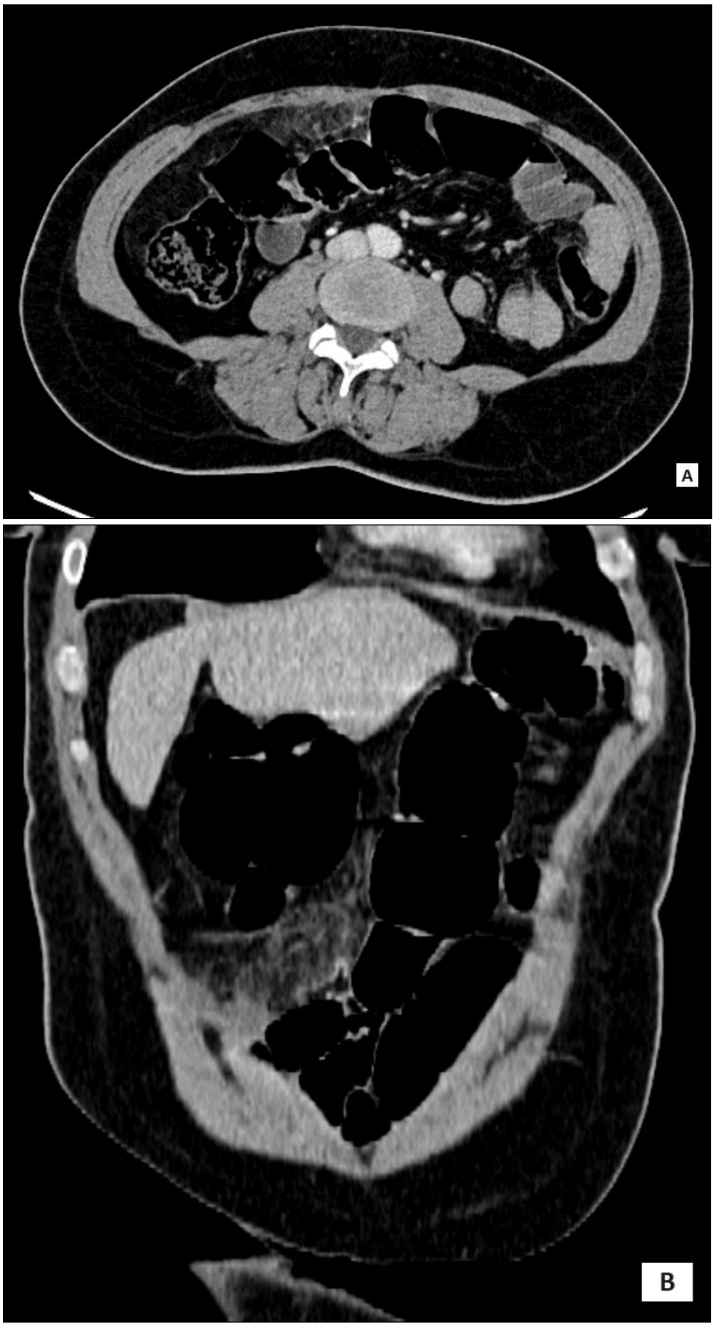
The initial course of action was medical in hospitalization in the surgery department, based on Non-Steroidal Anti-Inflammatory Drugs and Paracetamol, with clinico-biological monitoring. After an initial improvement, the patient was discharged home on the 3rd day under the same medical treatment with outpatient

clinical monitoring. After one month of monitoring, the patient still has pain with impaired quality of life. Rehospitalization for surgical exploration is indicated.

A laparoscopic exploration, carried out under general anesthesia, revealed a fatty mass at the expense of the right part of the transverse colon in the form of a cord, without other intraperitoneal anomalies, notably no effusion, abscess or tumor. The procedure consisted of an omentectomy using thermofusion (figure 2). The postoperative course was simple, notably the disappearance of the right flank pain and the patient was discharged home on POD1.

Histological studies of the surgical specimen show that these are granulomatous inflammatory changes in the fatty tissue with the presence of cytosteatonecrosis and absence of malignancy.

One month after postoperative monitoring, the patient is perfectly well and satisfied with the surgery.



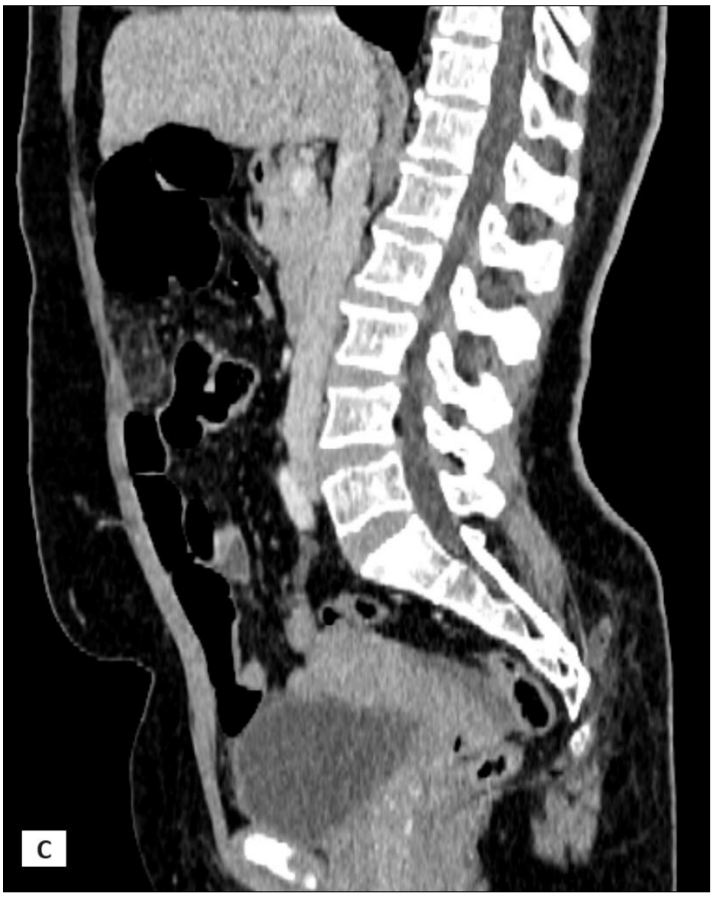


Figure 1: Abdominal CT scan, axial (A), sagittal (B) and coronal (C) sections, showing infiltration of the greater omentum creating a pseudo-mass.

Figure 2: Surgical specimen of the laparoscopic omentectomy.

DISCUSSION

Primary omental torsion is a rare cause of acute abdomen. It was first described in 1899, the exact incidence of this disease remains largely unknown [2]. It is frequently observed between the ages of 30 and 50 and its incidence in men is twice that of women. The putative sex-based differences could be attributed to the relatively higher fat content of the male omentum [2-4].

The greater omentum arises from the dorsal mesoderm and consists of four layers. It attaches to the greater curvature of the stomach, duodenum and transverse colon. It continues with the gastrosplenic

ligament and the splenocolic ligament on the left edge. Blood supply is provided by the right and left gastroepiploic arteries [3].

Omental torsion occurs when the greater omentum is twisted around its long axis and it is classified as primary or secondary depending on its mechanism of formation [2-5]:

- Primary torsion: the distal end of the omentum is always free and this is why it is also called unipolar torsion. Although the etiology is not yet fully understood, some anatomic conditions such as irregular lubrication of the omentum, vascular malformations, bifid or accessory omentum or elongated omental tips, as well as factors such as obesity, local trauma, and hyperperistalsis following a heavy meal, sudden changes in body position believed to increase intraabdominal pressure [5].
- Secondary twist: perhaps a unipolar or bipolar twist in which both ends are fixed. The distal end is attached to adhesions with an underlying causal etiology (previous abdominal surgery, intra-abdominal tumor, inflammation, adhesion, hernia, etc [2-5].

Omental torsion is more common on the right side around the right distal omentum artery due to the increased length and mobility of the right side of the greater omentum. Compared to the left side. The left vessels are more stable due to the gastrosplenic and splenocolic ligaments [1-5]. This torsion leads to intense venous congestion then to progressive arterial ischemia which ultimately leads to a hemorrhagic fatty infarction and the appearance of omental fatty necrosis [1].

The reasons for consultations are generally non-specific, represented mainly by abdominal pain on the right side which can be associated with nausea, vomiting, loss of appetite or fever. This atypical clinical picture contributes to omental torsion being wrongly diagnosed as acute appendicitis, acute appendagitis, acute cholecystitis, acute pancreatitis, perforation of a peptic ulcer, diverticulitis, and a urogynecological pathology [3-5].

On laboratory assessment, leukocytes and C-reactive protein are generally detected as elevated [2]. Abdominal ultrasound generally shows a non-specific appearance in favor of a moderately hyperechoic, non-compressible oval mass, and possibly a small intraperitoneal effusion [3-5].

Abdominal CT generally diagnoses torsion of the greater omentum by showing:

- Essentially the “swirl sign” which is described as a cloudy mass of fat with concentric lines of fat, with twisting of blood vessels within the greater omentum [2-5].
- Possible hemorrhagic or infectious complications.

Given the difficulty of preoperative diagnosis and the multitude of differential diagnoses, the diagnosis of omental torsion has often been made retrospectively during surgical exploration in the presence of twisted omental fat with a necrotic appearance, without other abnormalities during surgery. exploration of the rest of the peritoneal cavity [1-4].

To date, there is no validated consensus for the management of omental torsion. We note the presence of two therapeutic approaches: conservative and laparoscopic [2-6]:

- The laparoscopic approach: with diagnostic interest, it is considered for certain authors as the reference means of diagnosis of this entity. Omentectomy is the preferred modality and helps limit sepsis and shorten the duration of hospitalization [5, 6]. As well as early surgical intervention allows reduction in the incidence of necrosis, abscess formation and adhesions. Some authors mention that an appendectomy should be performed even with a normal appearance of the appendix to avoid a possible future presentation of appendicitis and thus eliminate any possible diagnostic difficulty [1-4]. Classic laparotomy is no longer performed due to its invasive nature and its difficulty, particularly in overweight patients, to allow adequate inspection of the entire peritoneal cavity [1-6].
- The conservative approach: includes oral painkillers, anti-inflammatories and more or less antibiotics. A disadvantage of conservative management is that symptoms may persist for weeks, with the average time to resolution being 13.5 days. In non-operable patients due to comorbidities, conservative management remains a preferable option; however, close monitoring is recommended in medically treated patients looking for surgical indications in the event of no clinical improvement, particularly abdominal pain or even intraperitoneal complications [2-6].

Although some studies have attempted conservative treatment of omental torsion, the recommended treatment in symptomatic patients is surgical excision [3].

CONCLUSION

Through this case report highlighting a diagnostic and therapeutic problem facing acute abdominal pain, particularly on the right, in a relatively young population. As well as the importance of using CT in the event of an atypical clinico-biological picture to support the diagnosis of possible omental torsion, in

order to initiate early treatment. In the literature, there is no preference for the choice of therapeutic approach, it must therefore be decided based on the individual as well as imaging and clinical results.

Conflicts of Interest: The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

REFERENCES

1. Saad, E., Awadelkarim, A., Agab, M., Babkir, A., & Yeddi, A. (2022). Omental fat torsion: A rare mimicker of a common condition. *Journal of Investigative Medicine High Impact Case Reports*, *10*, 23247096221076271.
2. Öztaş, M., Türkoğlu, B., Öztas, B., Alakuş, Ü., & Meral, U. M. (2023). Rare causes of acute abdomen and review of literature: Primary/secondary omental torsion, isolated segmental omental necrosis, and epiploic appendagitis. *Turkish Journal of Trauma & Emergency Surgery*, *29*(2), 193.
3. Joshi, S., Cuthbert, G. A., & Kerwat, R. (2016). Omental torsion, a rare cause of acute abdomen. *Case Reports, 2016*, bcr2015213118.
4. Chinaka, C., Mansoor, S., & Salaheidin, M. (2018). Torsion of the Omentum: A Rare Cause of Acute Abdomen in a 14-Year-Old Boy. *Case Reports in Surgery*, *2018*(1), 7257460.
5. Yagnik, V. D. (2019). Primary omental torsion. *ANZ J Surg*, *89*(11), 1515-1516.
6. McMillen, B., Hekman, D. P., Nguyen, M. T. T., & Grewal, D. (2019). Idiopathic omental infarction: managed conservatively. *BMJ Case Reports CP*, *12*(3), e226978.