

Omental Infarction in a Down Syndrome Patient: Conservative Management

Dr.Nasser Alrashidi

General Surgery Department, Onaizah College of Medicine and Health Science, Qassim University, Saudi Arabia

Abstract: One of the unusual etiology of acute abdomen is the Omental Infarction which could has a similar presentations of acute abdomen, such as acute pancreatitis, cholecystitis, diverticulitis, appendicitis, ileitis or other conditions. In our hospital, a 19-years old male down syndrome patient was received complaining of right sided abdominal pain since 3 days upon presentation. Patient was assessed clinically, laboratory and radiology and diagnosed as Idiopathic Omental Infarction. Because the absence of the complications of Omental Infarction and other surgical indications of emergency surgical intervention, the patient was treated conservatively in form of good hydration, pain medications, IV antibiotics and serial clinical assessments for five consecutive days. The patient exhibited completely improvement of his condition without complications.

Keywords: Omental Infarction, down syndrome, abdominal pain, conservative management.

I. INTRODUCTION

One of the unusual etiology of acute abdomen is the Omental Infarction presenting into emergency department [1]. The most common symptom is an abdominal pain which triggered mostly in the right side of the abdomen [1,2]. For Omental Infarction, various differential diagnosis are considered, including: acute pancreatitis, cholecystitis, diverticulitis, appendicitis, ileitis or other conditions[3–6]. A careful history and examinations are important in similar cases, particularly in down syndrome patients. For difficult cases, a CT scan images of abdomen is crucially helpful [7,8]. Management of Omental Infarction depends on the patient condition either surgery or conservative treatment [2–4].

II. CASE RESENTATION

A 19- years old male down syndrome patient arrived in the Emergency complaining of abdomen pain for 3 days with maximum in the right upper quadrant. According to the patient and his family's presenting history, no anorexia, vomiting, constipation, Diarrhea, fever nor similar history before. The past medical and surgical history were unremarkable.

Therefore, clinical Examinations were required to guide the management plan. Upon Examination, patient's vital signs showed a 37°C of temperature, heart rate of 80 beats/min, blood pressure of 115/75 mmHg and BMI of 27. These results indicate that the patient is in a stable condition. For abdominal examinations, findings exhibited a soft, lax, right sided abdomen tenderness with a maximum tenderness in the right upper quadrant. Murphy's sign was a positive. Thereby, based on his abdomen examinations, further investigations were required aiming to understand patient's condition.

Laboratory investigations were sent and the findings revealed a white blood cell counts of 8 / μ L, C-reactive protein level of 1.20 mg/dL, Lactic acid level of 1.08 mmol/L and Total bilirubin levels of 1.1 mg/dL. Hence, the radiological images were mandatory to clarify his presentation.

Abdominal X-ray findings were unremarkable. An abdominal ultrasound demonstrated a normal gallbladder wall without stones and a normal bile ducts diameter. A Contrast-enhanced abdominal CT scan images showed an edematous fat stranding involving the right paracolic gutter and anterior to the right hepatic flexure associated with secondary edematous changes of the hepatic flexure and second part of duodenum. Other organs were unremarkable. Fig. 1 shows contrast-enhanced CT images of abdomen upon admission.

Based on aforementioned patient's general assessments, he admitted to the hospital and the conservative management was initiated for his condition. Patient's received a good hydration, pain medications, IV tazocin antibiotic and progressive oral intakes. In the following days, the patient respond to the treatment plan and his general condition has seen significant improvements in the form of vital signs, abdomen examinations, laboratory, and well tolerated oral diets.

Later and after 5 days of post admission, a Contrast-enhanced abdominal CT scan was repeated. The scan images showed that the anterior to the ascending colon, a focal fat stranding representing improved Omental Infarction with no other secondary changes. Fig. 2 exhibits the Contrast-enhanced abdominal CT after treatment. The patient was discharged on the fifth day and was seen in the clinic during 6 weeks, 3 months and 6 months. During the last visit, the patient was clinically completely improved.

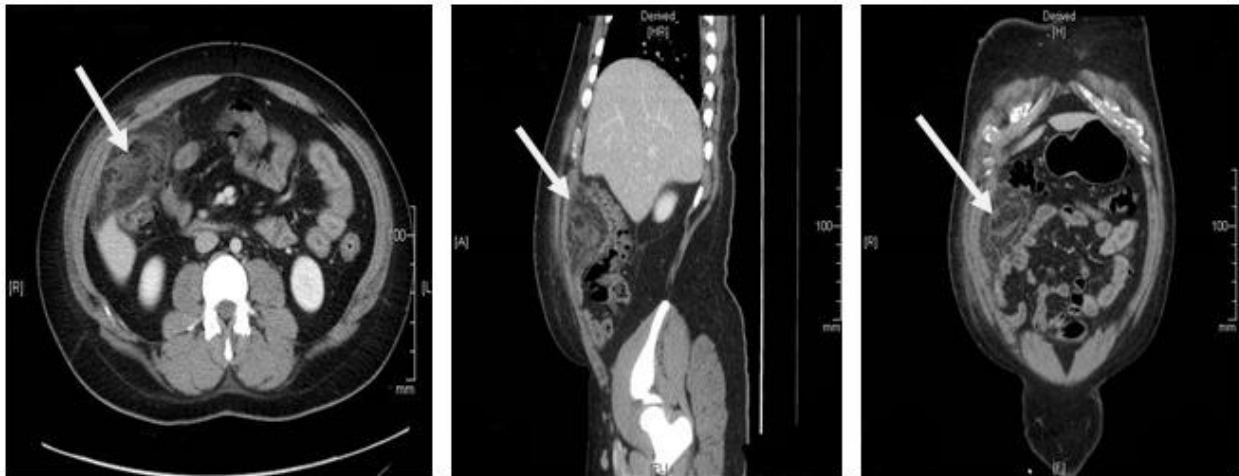


Fig 1: A CT scan images of abdomen upon admission

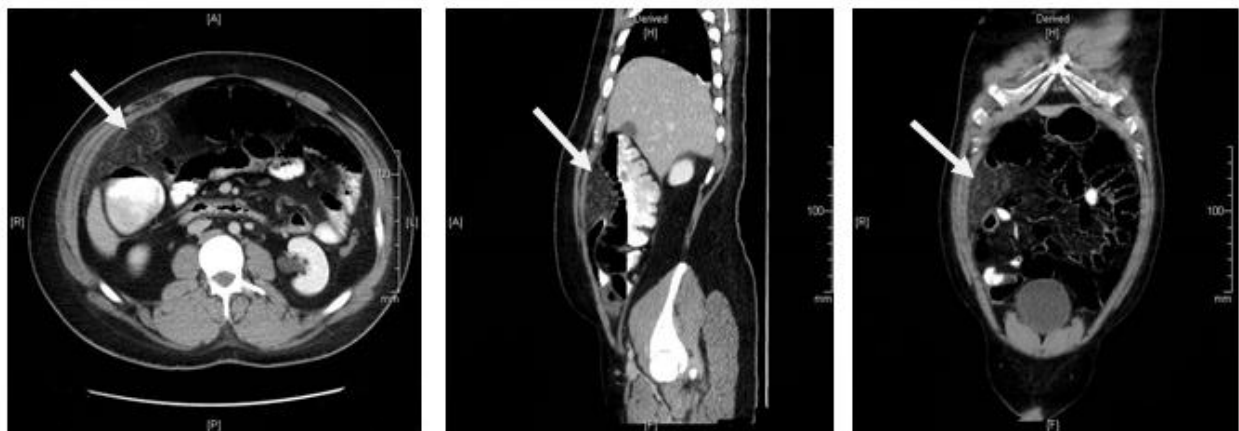


Fig 2: A CT scan images of abdomen upon discharge.

III. DISCUSSION

One of the unusual etiology of acute abdomen is the Omental Infarction [1]. The most common symptom is a pain which could be either acute or sub-acute. The severity of the pain is very sensitive to where it located in the abdomen. Usually, it can be either in the right upper quadrant and right or left lower quadrant [1,2,9]. Being in the right side has more influences on the patient since the right abdomen has larger greater omentum and more mobile than the left side [1,2,4]. Others suggest that the origin in the right side of greater omentum having more congenital abnormality of blood vessels [10].

The symptoms can be associated with nausea, vomiting, fever, or Diarrhea [4,7,11]. Although the history and clinical assessment do not indicate the cause of this disease, a high index of suspicious is a crucial especially in down syndrome patient [2,3,7,10]. The differential diagnosis can mimics Omental Infarction, include: acute pancreatitis, cholecystitis, diverticulitis, appendicitis, ileitis or other conditions.[3,4,6]

The incidence of Omental Infarction is 0.0016%-0.37% when compared with appendicitis [2]. This disease has been observed in both adults and paediatrics [2]. Total bilirubin level can be increased in Omental torsion because of hemolysis. CRP can be also increased in inflammatory issues associated with Omental Infarction [11].

Omental Infarction can be classified into primary or secondary. The primary (idiopathic) Omental Infarction has no clear etiology causing this disease. Various factors may leading to the primary Omental Infarction, include: large omentum, abnormal anatomy, obesity, cough, a body position changing, wrestling and horse riding, taking strong purgative drugs, and overeating. The secondary Omental Infarction, in the other hand, can be caused by adhesions, cysts, hernias, prior surgery [1,4,9,11].

In addition, Omental torsion has been classified as unipolar or bipolar. The unipolar is defined as the proximal omentum is fixed but the distal omentum remains free. The bipolar omentum is defined as both proximal and distal omentum are fixed [11].

The symptoms and clinical assessments do not pointing toward the diagnosis. Therefore, images are extremely vital to guide the management plan. A CT scan of abdomen and pelvis remains the best modality of imaging to diagnose the patient and identify the underlying etiology. Abdomen sonography can be used as well [8].

The abdomen sonography could show a focal area of increased echogenicity in the Omental fat. The contrast enhanced CT scan of abdomen could show a swirling of greater omentum vessels, fat stranding mostly in the right upper quadrant and hyperechoic peripheral halo sign [3,4,6,7,9].

Traditionally, the management of Omental Infarction was surgery and resection of the involved segment. Nowadays with improvement of the radiological interventions, conservative management has been increased in the absence of the indications of surgery, such as persistence of pain, peritonitis, abscess formation, secondary causes of Omental Infarction. Upon conservative management the patient has to be assessed clinically in form of vital signs, serial abdomen examinations, laboratory findings and follow up the patient in the clinic [1-4,10,11].

IV. CONCLUSION

One of the unusual causes of acute abdomen is the Omental Infarction and can be similar to another etiologies. A case-report was presented in this paper to discuss the understanding in the overall management, particularly in a patient with a down syndrome. In this patient, the conservative treatment was totally successful and proved its efficiency rather than the need for surgical intervention in the absence of surgical indications. The radiology intervention may also assist in diagnose and identifying the etiology. Therefore, the treatment primarily depend on the patient overall a clinical assessment.

Conflict of Interests:

The authors declare that they have no conflict of interests.

REFERENCES

- [1] Barai KP, Knight BC. CASE REPORT-OPEN ACCESS Diagnosis and management of idiopathic omental infarction: A case report. *Int J Surg Case Rep* 2011;2:138-140.
- [2] Lindley SI, Peyser PM. Idiopathic omental infarction: One for conservative or surgical management? *J Surg Case Reports* 2018;3:1-3..
- [3] Barai KP, Knight BC. Diagnosis and management of idiopathic omental infarction: A case report. *Int J Surg Case Rep* 2011;2:138-140.
- [4] Tannoury J, Yaghi C, Gharios J, Abboud B. Omental ischemia. *Press Medicale* 2016;45:824-828.
- [5] Andreuccetti J, Ceribelli C, Manto O, Chiaretti M, Negro P, Tuscano D. Primary omental torsion (POT): A review of literature and case report. *World J Emerg Surg* 2011:6.
- [6] Bonafe T, Nicola R, Kovacs J. Differential Considerations for Omental Fat Infiltration and Thickening on CT. *J Am Osteopath Coll Radiol* 2014;3:22-24.

- [7] Udechukwu NS, D'Souza RS, Abdulkareem A, Shogbesan O. Computed tomography diagnosis of omental infarction presenting as an acute abdomen. *Radiol Case Reports* 2018;13:583–585.
- [8] Choh N, Shera T, Jabeen S, Ashraf O, Khan A, Shaheen F, et al. Primary and secondary omental infarction: A 5-year experience in a tertiary care hospital. *Saudi Surg J* 2017;5:77.
- [9] Choh NA, Shera A, Jabeen S, Ashraf O, Khan M, Shaheen A, et al. Primary and secondary omental infarction: A 5-year experience in a tertiary care hospital. *Saudi Surg J* 2017;5:77–81.
- [10] Battaglia L, Belli F, Vannelli A, Bonfanti G, Gallino G, Poiasina E, et al. Simultaneous idiopathic segmental infarction of the great omentum and acute appendicitis: a rare association. *World J Emerg Surg* 2008;3:30.
- [11] Katagiri H, Honjo K, Nasu M, Fujisawa M, Kojima K. Omental Infarction due to Omental Torsion. *Case Rep Surg* 2013;2013:3.