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# Idiopathic omental infraction as a cause of acute abdomen: Case report

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## ABSTRACT

**INTRODUCTION:** Idiopathic omental infraction is a rare cause of acute abdominal symptoms that has been known with growing recurrence in the past ten years. It presents as right iliac fossa pain, and it's sometimes misdiagnosed as acute appendicitis.

In this study we present a case Report of idiopathic omental infraction as a cause of acute abdomen.

**PRESENTATION OF CASE:** A 25 year old male, presented to the casualty complaining of intermittent worsening pain in the right side of the abdomen, this symptom which mimicked the other commoner causes of acute abdomen. On further investigations he had leukocytosis, high C-reactive protein and ESR levels, A contrast computed tomography suggested acute appendicitis, In due course patient was operated after taking his consent, inside the operation 70 % of the greater omentum was necrotic with a black colour, An omentectomy was performed and he was discharged after two days with good recovery.

**CONCLUSION:** A right side abdominal pain is not only confined to appendiceal diseases, So other disease should be put in consideration.

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## 1. Introduction

Idiopathic omental infraction is a rare cause of acute abdominal symptoms that has been known with growing recurrence in the past years [1]. It's uncommon cause of abdominal ache. It's more frequent in prepubescent males. The compromised blood flow to the omentum due to torsion or due to venous occlusion causes the condition. It presents as right iliac fossa, and it's sometimes misdiagnosed with acute appendicitis. Because of this most of the cases are reported during the operations. The condition is mild and self limiting. Acute idiopathic omental infraction that presents as left iliac fossa ache is uncommon in medical literature [2].

This work has been reported in line with the SCARE criteria [3].

In this study we present a case Report of idiopathic omental infraction as a cause of acute abdomen, which looking for the patient presentation and the surgical intervention.

## 2. Case report

A 25 year old sudanese gentleman presented to the surgical department with a history of pain in the right side of the abdomen. He reported that he had a previous episode of a non colicky intermittent pain over the right hypochondriac area 9 months prior

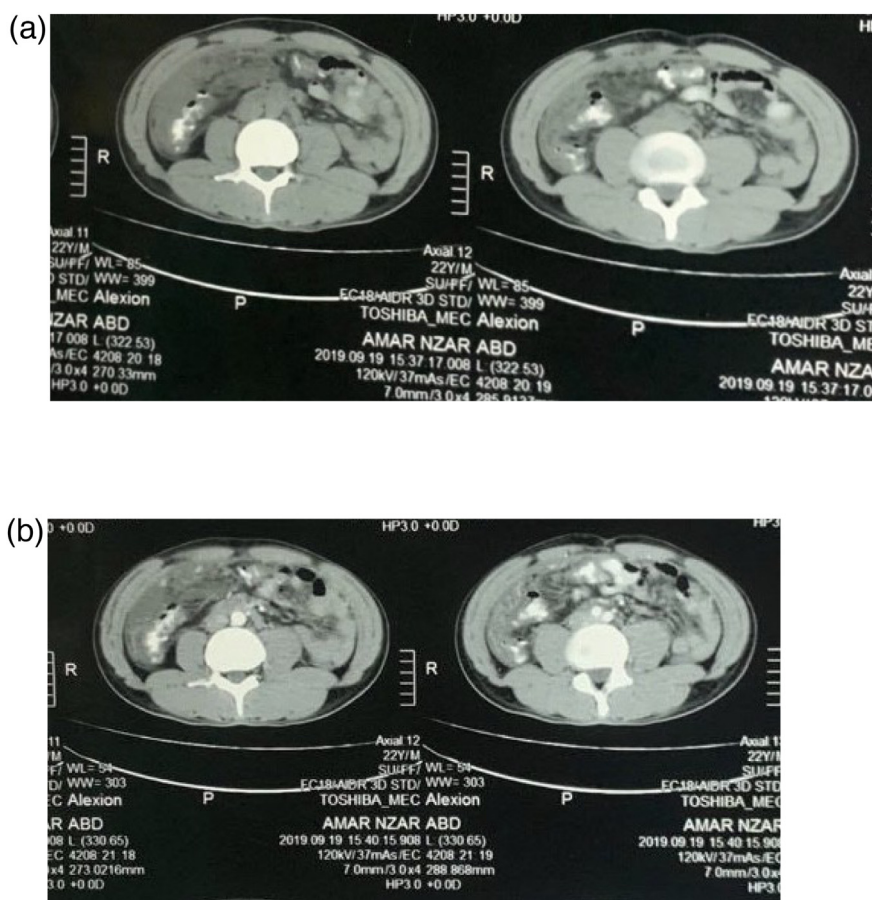
admission, increasing when he lying on his left side. 6 days before the surgical admission, the pain started to worsen, became persistent and radiated over the whole right side of his abdomen, along with fever, nausea and projectile vomiting. He was given analgesic and antibiotic but showed no improvement. Seen on his surgical admission, the pain was deteriorating and localised in the right iliac fossa. Family and psychosocial history did not reveal any pathological findings (Fig. 1).

Physical Examination showed diffuse tender abdomen with guarding and rebound tenderness in the right lower quadrant. Blood tests showed high white blood count, high C-reactive protein (CPR) level and high erythrocytes sedimentation rate (ESR). His liver function tests (LFT) and renal function tests (RFT) were all normal. A contrast CT of the abdomen and pelvis revealed diffuse mucosal thickening of the right colon (cecum, ascending colon, and part of transverse colon) with peicoloc fat stranding. Mild ascitic was noted mainly in pelvic. No enlarged lymph nodes, normal SMA and SMV. Unremarkable small bowel, average liver size with normal density, no focal lesions, or IHBRs dilatation. Normal CT appearance of the gall bladder, spleen, pancreas, and supra renal glands. Both kidneys were normal in size showing normal excretory function with no stones, masses or cysts. Normal CT appearance of UB, no masses. Normal pelvic organs, clear scanned lower chest cuts.

A surgical procedure has been done by Mr. Mugahid A Salih (MBBS, MRCSed, Msc, MD, Assistant professor of Surgery and Acting head of Anatomy department, faculty of Medicine, UofK.) and his team, On the operation 70 % of the greater omentum necrotic,

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**Fig. 1.** a) The omentum at right side is thick and oedematous with adjacent fat strand and small free fluid, normal nearby bowel lumen. b) Afer IV contrast, the omentum show patchy enhancement.

black in colour. An omentectomy was performed, patient show good recovery with complete relieving of symptoms, two days later he discharged home and followed up by telephone.

The CT scan was reassessed again by another radiologist post-operatively and she reported a thick, oedematous omentum at the right hypochondrium with haziness, patchy enhancement and fat stranding. Rest of the bowels loops, duodenum and stomach were unremarkable and there was moderate free fluid seen in the pelvis. Patent aorta and mesenteric vessels. No significant lymph adenopathy. Normal liver, spleen and both adrenals. Normal kidneys.

**3. Discussion**

Idiopathic mental infraction is a rare cause of acute abdominal symptoms that has been known with growing recurrence in the past years [1]. It's uncommon cause of abdominal ache. It's more frequent in prepubescent males. The compromised blood flow to the momentum due to torsion or due to venous occlusion causes the condition. It presents as right iliac fossa, and it's sometimes misdiagnosed with acute appendicitis. Because of this most of the cases are reported during the operations. The condition is mild and self limiting. Acute idiopathic mental infraction that presents as left iliac fossa ache is uncommon in medical literature [2].

Idiopathic mental infraction is rare but serious cause of acute abdominal pain. It has been reported for the first time over 100 years ago. About 0.1 % of all laparotomies operated for acute abdomen is due to infraction of the greater omentum, and 0.0016–0.37 % incidence rate has been predicted. Omental infraction can be divided into primary where there is no detectable cause,

or secondary due to existence of other intra-abdominal pathogenesis [3].

The main presenting complain is right sided abdominal pain and discomfort. The right side is more frequently involved than the left side, this is because the increased length and mobility of the right side which makes it more likely to tort around itself causing compression around its vasculature. Major precipitating factors that has been reported both primary and secondary division are obesity, adult age, male gender, sudden changes in body statures and heavy efforts [3].

Because the incidence is little and clinical symptoms are not specific, mental infraction is not admitted in the clinical differential diagnosis on basic assessment in most of patients [4].

To our knowledge, over 400 cases have been reported till now, despite that it is challenging to estimate the exact incidence [5].

Pathogenesis related to the blood supply disturbance is unclear, considering a preponderance for right side mental infraction that it has anatomically altered vasculature, that less unable to handle thrombosis and spontaneous venous stasis, it is discovered that there is correlation between increased body mass index and OI, It was dating back to cases reporting in obese children, it is speculated that fat accumulation in the greater omentum handicaps the right epiploic artery thus renders torsion. Moreover, the morbidity of the right greater momentum insecure it to liking and twisting on itself [6].

The diagnosis of OI is based mostly on the radiological imaging, chiefly CT scanning. The importance of CT imaging is to decrease the differential diagnosis of acute abdomen and thus reduction in unimportant abdominal surgical procedures [7].

Omental torsion is suggested as CT image when a concentric whirled linear patterns in the scan observed, Fat density can be observed in CT, it is usually seen as a heterogenous fatty masses located between ascending or transverse colon and anterior abdominal wall, the commonest CT presentation of OI is demonstrated by inflammatory changes surrounding an ill-defined heterogenous fat density lesions in the greater omentum [7].

CT scan can help in differentiation between appendicitis and acute OI, unlike OI, acute appendicitis sliced by periappendicial inflammation, an increased appendix diameter of more than 7 mm, with mural thickness of more than 2 mm, with or without calculus appearance [8].

An abdominal X-ray is usually nonspecific in majority of cases, ultrasound techniques of a hyperechoic, ovoid mass adherent to the anterior abdominal wall at the tender site can help in OI diagnosis, A presence of “whirl sign” at CT image is quite enough to confirm diagnosis of OI. But sometimes it can be missed in the CT scans, so radiologists should pay more attention and surgeons always have to include OI in their differential diagnosis list [9].

If the patient's clinical, laboratory and radiological findings are worsened or when the diagnosis is doubtful, a surgical intervention becomes compulsory. Surgical management includes abdominal operation of omental necrosectomy which helps in rapid pain amelioration and helps in patient discharge much quickly. OI can be managed either conservatively or surgically [9]. A review of the literature regarding the conservative treatment showed failure in a considerable numbers of patients, thus the majority of physicians prefer to perform the surgery [10].

#### 4. Conclusion

We present a patient diagnosed with OI intraoperatively and managed surgically, showing a dramatic recovery after the operation, according to our experiences and after scrutinising past literature, we suggested that a right iliac fossa pain is not only limited to appendix diseases. So other disease should be put in consideration.

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The authors report no declarations of interest.

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#### Ethical approval

Ethical approval were obtained from university of khartoum faculty of medicine.

#### Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy

of the written consent is available for review by the Editor-in-Chief of this journal on request”.

#### Research Registration Number

1. Name of the registry:
2. Unique identifying number or registration ID:
3. Hyperlink to your specific registration (must be publicly accessible and will be checked):

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**Mugahid A. Salih:** Conceptualization, Methodology, Validation, Investigation, Resources, Data curation, Writing - review & editing, Supervision, Project administration. **Malaz I. Ibrahim:** Methodology, Software, Validation, Investigation, Writing - original draft. **Abrar Y. Ali:** Methodology, Software, Writing - original draft. **Alaa O. Koko:** Investigation, Resources.

#### References

- [1] V. Johri, V. Dhaduk, N. Mushtaque, N. Jain, P.K. Reddy, Role of laparoscopy as diagnostic and therapeutic tool in management of omental torsion, *Sri Lanka J. Surg.* 36 (1) (2018) 39–41.
- [2] Shanavas Cholakkal, Rajesh Nambiar, Sajeesh Sahadevan, Rohit Ravindran, Acute idiopathic omental infarction as an unusual cause of left iliac fossa pain: a case report, *Int. Surg. J.* 5 (February (2)) (2018) 743–745.
- [3] R.A. Agha, M.R. Borrelli, R. Farwana, K. Koshy, A. Fowler, D.P. Orgill, For the SCARE Group, The SCARE 2018 statement: updating consensus Surgical Case REport (SCARE) guidelines, *Int. J. Surg.* 60 (2018) 132–136.
- [4] E.S. Concannon, A.M. Hogan, R.S. Ryan, W. Khan, K. Barry, Primary omental infarction: a rare cause of acute abdominal pain, *Clin. Exp. Med. Sci.* 1 (5) (2013) 233–240.
- [5] A.K. Singh, D.A. Gervais, P. Lee, et al., Omental infarct: CT imaging features, *Abdom. Imaging* 31 (2006) 549–554.
- [6] G. Joseph, T. Jenny, Y. Cesar, A. Bassam, Idiopathic omental ischemia treated by laparoscopy: case report, *J. Med. Liban.* 65 (4) (2017) 231–233.
- [7] Kushal P. Barai, Benjamin C. Knight, Diagnosis and management of idiopathic omental infarction: a case report, *Int. J. Surg. Case Rep.* 2 (2011) 138–140.
- [8] G. Rahul, F. Waad, A. Houssein, et al., Idiopathic segmental infarction of the omentum mimicking acute appendicitis: a case report, *Int. J. Surg. Case Rep.* 60 (2019) 66–68.
- [9] Ryne A. Didier, Petra L. Vajtai, Katharine L. Hopkins, Iterative reconstruction technique with reduced volume CT dose index: diagnostic accuracy in pediatric acute appendicitis, *Pediatr. Radiol.* 45 (February (2)) (2015) 181–187.
- [10] Steve I. Lindley, Paul M. Peyser, Idiopathic omental infarction: one for conservative or surgical management? *J. Surg. Case Rep.* 3 (2018) 1–3.

#### Further reading

[11] S. Ramawad, B. Mohammed, G. Simon. Conservative management of segmental infarction of the greater omentum: a case report and review of literature. *Case Rep. Med.*, 2010, 2010,765389.

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