

# Isolated Omental Panniculitis: A Rare Case Report with Review of Literature

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## ABSTRACT

Isolated Omental Panniculitis is a very uncommon intra-abdominal disease, causing non-specific inflammatory symptoms, which only involves omentum without involving other organs like bowel, fat necrosis and pancreatitis. It is mostly seen in adults. The exact etiology of IAP is still obscure. Also, Modern diagnostic tools like CT & MRI were also ineffective to make the diagnosis. Different treatment modalities including conservative medical management with Anti-inflammatory drugs like low dose steroid along with NSAIDS and surgical excision of mass both were tried in past. In this article we are reporting an isolated omental panniculitis patient who presented to emergency with acute abdominal pain & was treated with laparoscopic omental segment resection.

**Keywords:** isolated omental panniculitis, diagnostic dilemma, laparoscopic resection.

## INTRODUCTION

Panniculitis is a rare disease of unknown aetiology, characterised by chronic inflammation of the fatty tissue anywhere in the body<sup>1</sup>. Intra-abdominal panniculitis usually involves the small bowel mesentery (up to 90% of cases) followed by other fatty tissue like mesocolon, retroperitoneum, peripancreatic region, pelvis & omentum<sup>1</sup>.

Isolated omental panniculitis (IOP) is a rare disease entity characterized by chronic inflammation of the omentum without involving any other organs/regions of the abdomen. Katz et al have reported the first case of IOP in 1985 & only 9 cases of IOP have been reported so far in the literature<sup>2</sup>.

We are reporting a case of IOP in a 61-year-old female who presented to our emergency with an acute abdominal pain.

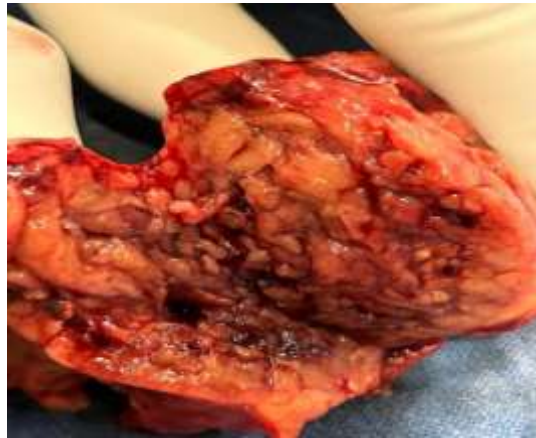
## CASE

A 61 years old female presented to our emergency with complaint of right lower abdominal pain for past 6 days, which was sudden in onset, progressive in nature, moderate to severe in intensity & was aggravated by change in posture.

There was no h/o fever /nausea /vomiting /anorexia /loose stools/ constipation /burning micturition/discharge per vagina & jaundice.

She also had a h/o vaginal hysterectomy 10 years back for fibroid uterus. On examination her abdomen was Protuberant with no other significant finding detected on inspection. On palpation she was afebrile to

touch with tenderness and rebound tenderness present over right iliac fossa & right lumbar region, with hyperaesthesia over the skin.



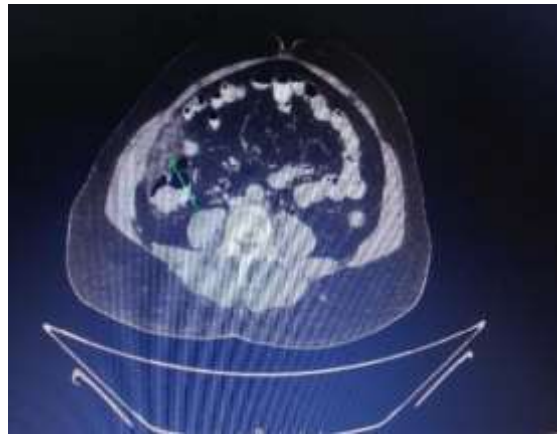
**Figure 1: Cut section of omental mass**



**Figure 2: Resected specimen of omentum**

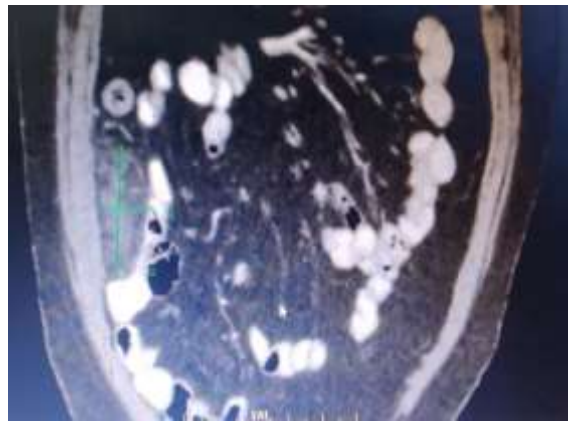


**Figure 3: Cut section of omental mass**



**Figure 4: Axial section of CT image**

showing omental mass.



**Figure 5: Coronal section of CT showing omental mass with dimensions.**

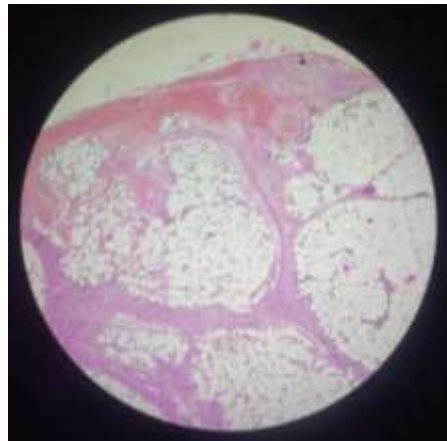
Length of 1 □ 5.98 cm

Length of 2 □ 2.79 cm

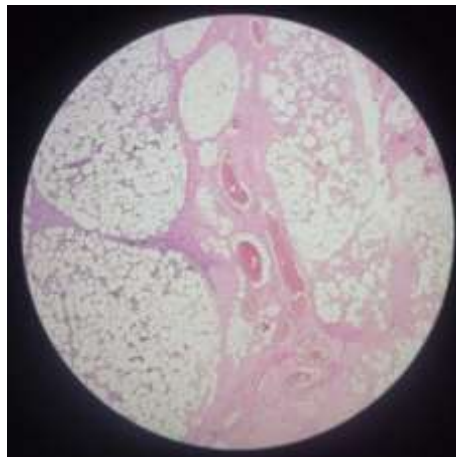
Her complete hemogram shows Hb-10gm/dl, WBC-8500micro/L, polymorph -84%, Platelet count 1.2lac/ml. Her abdominal Radiograph appears to be normal & Ultrasonography was indeterminate. CECT whole abdomen revealed sigmoid diverticulosis.

In view of diagnostic dilemma, a diagnostic laparoscopy was planned, which revealed a yellowish black appearing omental mass of size approx. 53\*34mm which was adhered to the right side of abdominal wall anterior to ascending colon. The mass was separated from abdominal wall and excised using endo-seizure & electrocautery. Her postoperative stay was uneventful & she is doing well in follow up.

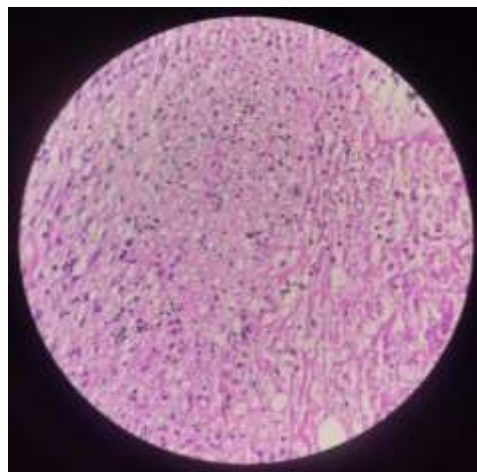
The Histopathological report showed the Fibroadipose tissue, congestion, haemorrhage and acute on chronic inflammatory infiltrate. Focally foamy histiocytic reaction seen in adipose tissue & areas of necrosis were also seen, suggesting it is an inflammatory condition of the omentum.



**Figure 6: Fibroadipose tissue with congestion and haemorrhage.**



**Figure 7: Fibroadipose tissue necrosis and congestion.**



**Figure 8: Mixed inflammatory infiltrate.**

## DISCUSSION

Intra-abdominal panniculitis is a generalised inflammation & necrotic reaction of intraperitoneal or retroperitoneal adipose tissue. Although small bowel mesentery is the most common site involved in the disease but infrequently, it can also involve other abdominal sites like mesocolon, pancreas pelvis & omentum.

It is characterised by 1. Diffuse, single or multiple mass like fatty lesions in the mesentery, retroperitoneum, omentum and pelvis. 2. Histological confirmation of fat necrosis with inflammatory infiltrate and or infiltration with foamy lipid laden macrophages; and 3. No evidence of pancreatitis inflammatory bowel disease and extra abdominal fat necrosis<sup>1,2</sup>.

Although the exact aetiology of IAP is still obscure but previous abdominal trauma, drugs, healing appendicitis, abdominal infections, inflammatory bowel disease, mesenteric ischaemia & prior surgery have been proposed as etiological factors<sup>1</sup>. In the present case she has a history of vaginal hysterectomy along with sigmoid diverticulosis, on CECT abdomen as an incidental finding. We could not find any definite cause in our case. Similarly, all cases reported in literature were also idiopathic<sup>1</sup>.

Majority of patients with IOP usually presents at 38-65 years of age, only one study reported a case of 13-years old boy with intestinal obstruction<sup>12</sup>. Although there is no defined age for omental panniculitis, in our case report presenting age of the patient was 61 years. Of total reported cases of IOP in the literature, males were predominantly involved (55%) than female (45%).

As omental panniculitis commonly presents with complain of abdominal pain followed by fever & nausea. However, in our patient the only complain was pain in right side of abdomen with no other complains. On physical examination majority of the patients presented with tenderness and sensitivity in right side of lower abdomen (table 1). However, few cases of tenderness and sensitivity in the epigastrium & one case of left upper quadrant of abdomen are also reported. In present case tenderness and sensitivity present over right side of abdomen which was more on right lower abdomen.

Majority of cases in literature reported a raised TLC counts with increased CRP & ESR levels in some studies, but TLC counts were within upper normal limits in our case, which might be due to delayed presentation of patient to the hospital & prior antibiotic administration. ESR & CRP could not be done due to their non availability in our setup.

The x-ray abdomen had non-significant findings in most of studies, like in present case except one study in which patient presented with abdominal distension and features of intestinal obstruction<sup>12</sup> (table1). Ultrasonography was done in majority of cases, but it was helpful only in 50% of cases & percutaneous ultrasonography guided biopsy was also done in one of the previously reported cases. The CECT abdomen is a very helpful investigation which was done in most of case studies which showed heterogenous hypodense mass with necrotic regions inside was very helpful in making the diagnosis of omental panniculitis pre-operative, but in our case CT abdomen could not diagnose the disease.

Although, the definite treatment of IOP is still undefined clearly, but a combination of various anti-inflammatory, immuno-modulatory/corticosteroid and antifibrotic drugs were tried in the literature.

A successful conservative medical management was done in 2 out of 10 cases while in rest 8 cases including our case, a surgical management was done (table1).

Both open conventional surgery (28%) and laparoscopic excision (72%) of omental mass has been done, which suggests that surgical excision is also a viable option for treatment (table1). In the present case a diagnostic laparoscopy was done due to diagnostic dilemma & omental mass was resected.

Histopathologically omental panniculitis is the inflammation of omental fat tissue with fibrosis. In majority of the previous studies the histopathological assessment confirmed the diagnosis, like the present case.

## CONCLUSION

Isolated omental panniculitis is a very uncommon disease entity. Despite availability of modern diagnostic tools, like CT & MRI the disease remain frequently undiagnosed. An early clinical suspicion and

meticulous use of laboratory and radiological investigations are useful tools for its early diagnosis. Although conservative & operative methods are time tested modalities in its treatment, but laparoscopic management play a pivotal role in its early recovery.

Author's Name	Katz et al (1985)	Hirono et al (2005)	Jeon et al (2009)	Lheureux et al (1987)	Sukru et al (2013)	Sukru et al (2014)	Yagnik et al (2018)	Keishi H et al (2017)	Mustafa et al (2016)	Present case
Patient's Age/sex	38/M	52/F	61/F	41/F	40/F	42/M	65/M	61/M	13/M	61/F
Complaints	Nausea, vomiting, epigastric pain	Pain at right upper quadrant	Pain at left upper quadrant nausea	Pain at right lower quadrant	Pain at right lower quadrant, nausea, fatigue,	Pain at right lower quadrant, nausea, fatigue,	Abdominal pain distension and vomiting	Abdominal pain and fever	Epigastric pain & vomiting	Pain at right lower quadrant
Physical examination	Epigastric sensitivity	Sensitivity and mass at right upper quadrant	Sensitivity at left upper quadrant	Sensitivity at right lower quadrant	Sensitivity at right lower quadrant	Sensitivity at right lower quadrant	Tenderness in left lumbar region with palpable lump	N/A	Tenderness and palpable epigastric mass	Sensitivity at right lower quadrant
Laboratory	Wbc: 11.000 CRP: N/A	Wbc: 7.100 CRP: .42	Wbc: 11.000 CRP: 0.1	Wbc: 11.000 CRP: N/A	Wbc: 12.400 CRP: N/A	Wbc: 12.600 CRP: N/A	Wbc: 22100 CRP: 10 ESR: 55	Wbc: 19200 CRP: 24.8	Wbc: 20500 ESR: 99 CRP: 145	Wbc: 8500 CRP: N/A ESR: N/A
Xray abdomen	inconclusive	inconclusive	inconclusive	inconclusive	inconclusive	inconclusive	Multiple air fluid levels	N/A	Multiple air fluid level	inconclusive
Ultrasonography	inconclusive	N/A	Hyperchoic mass	N/A	Minimal fluid in pelvis	Hypochoic and hetero	indeterminate	N/A	Hyperchoic mass in the	inconclusive

						genous mass			epigastrium	
CECT abdomen	Soft tissue mass	Soft tissue mass	Soft tissue mass	Hypodense mass	Hypodense mass	Hypodense mass	N/A	Attenuation of adipose tissue of greater omentum	Soft tissue mass	inconclusive
Treatment	Conventional surgery Omental excision	Conventional surgery Partial colectomy + omental mass excision	Conservative approach treatment with low doses of prednisone	Conventional surgery Omental resection	Laparoscopic surgery Omental resection	Laparoscopic surgery Omental resection	Conventional surgery with omental resection	Laparoscopic omental biopsy followed by oral low dose prednisolone	Exploratory open laparotomy	Laparoscopic surgery Omental resection
Histopathology	Fat necrosis and chronic inflammatory processes	Fat necrosis, fibrosis chronic inflammatory processes	Fibrosis, chronic inflammatory processes	Chronic inflammatory processes	Fat necrosis and chronic inflammatory processes	Fat necrosis and chronic inflammatory processes	Fat necrosis Lobules of adipose tissue fat laden macrophages	Fatty necrosis and fibrosis immature fibroblast acute inflammation	Chronic inflammatory process myofibroblasts Mixed inflammatory infiltrate	Fat necrosis and acute chronic inflammatory processes foamy histiocytic reaction

**Table 1: Review of the cases with present case.**

Abbreviation: N/A Investigation Not Available in emergency.

## DECLARATIONS

Funding: None

Conflict of interest: None declared

Ethical approval: Not required

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