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## A unique case of retroperitoneal abscess of pancreatic origin

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### Abstract

Retroperitoneal abscesses, though uncommon, present significant diagnostic and therapeutic challenges due to their subtle clinical manifestations. This case report describes a 49-year-old male patient, a chronic alcoholic, presenting with abdominal pain primarily in the right hemiabdomen, alongside a history of pancreatitis. Diagnostic imaging, including ultrasound and CECT scans, revealed a septated abscess originating in the pancreas and extending into the retroperitoneal space. The patient underwent exploration and debridement, with subsequent lab findings indicating elevated amylase and lipase levels, confirming the pancreatic origin of the abscess. Drain placement facilitated abscess resolution. The patient was followed up after 7 days, showing significant improvement, leading to drain removal. This case underscores the importance of early identification and management of retroperitoneal abscesses, particularly those with pancreatic involvement.

**Keywords:** Retroperitoneal abscess, pancreatitis, pancreatic abscess, chronic alcoholism

### Introduction

Abscesses in the retroperitoneal space pose a serious threat to health, presenting diagnostic and therapeutic challenges due to their infrequency and subtle clinical manifestations. Identifying chronically infected organs as the potential source of such abscesses is crucial, particularly when discovered in a non-emergency setting, as it is vital for comprehensive surgical intervention.

This case underscores the significance of understanding the anatomy of the retroperitoneal space to raise suspicion of an abscess, comprehend its manifestations-sometimes arising from uncommon pathophysiology-and initiate appropriate treatment.

The pancreas responds to various factors such as alcohol abuse, trauma, biliary stones, and viral infections by undergoing enzymatic digestion and inflammation. Late complications include chronic pancreatitis and pseudocyst formation. The diffuse extension of pancreatic inflammation can lead to the development of a retroperitoneal phlegmon. Encapsulation of the process results in a retroperitoneal abscess, offering a more favorable outcome.

### Case summary

A 49 years old gentleman presented with pain in abdomen particularly in the right hemiabdomen region for 10-15 days. Patient was a chronic alcoholic with history of alcoholic consumption for 10-15 years.

On examination the abdomen was suggestive of abdominal wall abscess with cellulitis with redness and localised rise of temperature particularly over right hemiabdomen.

USG was suggestive of "Mild collection with internal echoes and few septation noted in deep layer of right anterior abdominal wall in RIF". CECT abdomen was suggestive of-"Septate collection with enhancing wall at right paracolic gutter with peritoneal enhancement with soft tissue stranding at right hemiabdomen".

Exploration and Debridement was planned under GA and after sub- coastal incision Iliac and Psoas muscle of inspected and pus flakes was found in situ. Debridement was done and pus was sent for cytology, grams staining and ZN staining. Drain was left in situ. Due to recurrent pus collection in the drain, the same was sent for culture sensitivity and amylase, lipase, LDH examination and the lab finding showed elevation in the above variables.

CECT abdomen was repeated and was suggestive of Intercommunicating hypodense collection in right paracolic, perihepatic region with extension along right psoas and perinephric region up to the level of pancreas and likely communicating with intrapancreatic hypodense collection in uncinata process of pancreas”.

The drain was left till the collection in the same subsided to sub minimal in the same. The patient was called for follow up after 7 days and the drain was removed.

### Chief-complaints

The patient came with a complain of acute abdominal pain particularly in the right hemiabdomen, which was gradual in onset and progressive in nature, for 10-15 days, with breathlessness and history of fever, which was high grade and got relieved with medication for 7 days.

### History of presenting complaints

My patient was apparently alright when he complained of acute abdominal pain particularly over the right hemiabdomen. There was a history of vague abdominal pain for 10-15 days which got exaggerated post-acute alcohol intoxication. There was also the history of breathlessness which worsened with change in posture and history of fever was also given since past 7 days. The patient also complained of redness and localised temperature raise over the right hemi abdominal region.

### Personal and family history

The patient had a history of chronic pancreatitis and had multiple episodes of the same. There was history of 30 years of smoking and 10-15 years of alcohol intake occasionally.

### Physical examination

At the time of admission, the abdomen had obvious signs of cellulitis and swelling, a significant increase in skin temperature and an obvious palpable tenderness. BP- 100/60 mm of Hg, PR- 121/min, Temp- 100 F Pallor ++, Icterus, clubbing and cyanosis, lymph-adenopathy was absent.

### Lab parameters

#### The lab parameters

HB- 6.8 GM%, WBC Count- 21240 cells/cumm, Platelet- 5.72 Lakhs/cumm, Urea- 28 mg/dl, Creatinine- 0.86 mg/dl, Lipase- 383U/L, Amylase- 654 U/L.

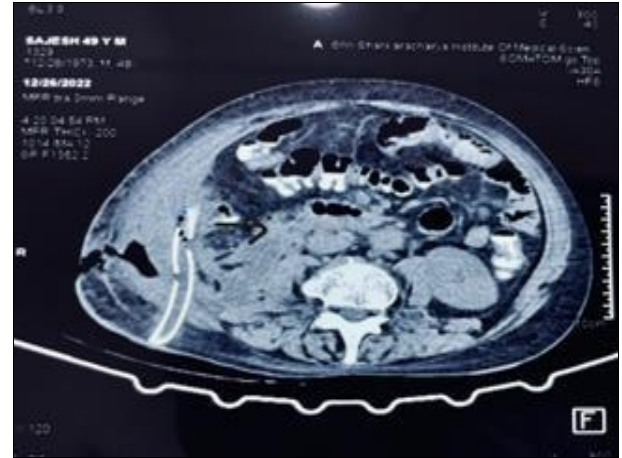
### Imaging examination

USG was suggestive of “Mild collection with internal echos and few septation noted in deep layer of right anterior abdominal wall in RIF region”. CECT abdomen was suggestive of “Septate collection with enhancing wall at right paracolic gutter with peritoneal enhancement with soft tissue stranding at right hemiabdomen” CECT abdomen was repeated after exploration and debridement and was suggestive” Intercommunicating hypodense collection in right paracolic, perihepatic region with extension along right psoas and perinephric region upto the level of pancreas and likely communicating with intrapancreatic hypodense collection in uncinata process of pancreas”.

### Treatment

Initially the empirical treatment was given which included antibiotics (Inj Pipracilline Tazobactam, Inj Metronidazole and other symptomatic treatment for 3 days) Due to non-resolution of the above, Exploration and Debridement was planned under GA and pus flakes were removed and sent for Cytology and

culture sensitivity. The culture and sensitivity was suggestive of Acinetobacter species.



**Fig 1:** Final Diagnosis-Retroperitoneal abscess secondary to pancreatitis.

The drain was left in situ and due to recurrent collection in the same the drain fluid was sent for amylase and lipase examination. The result were- Amylase-482 U/L AND Lipase-632 U/L. CECT Abdomen was repeated and was suggestive of pancreatic fistula hence drain was not removed and left in situ. The patient was called after 7 days and drain was removed.

### Outcome and follow-up

The patient was discharged with drain in situ 14 days after operation. When the secretion in drain subsided to sub-minimal level to approx.- 10-15 ml, the drain was removed and patient was given oral antibiotics and supplements.

### Discussion

The retroperitoneal space constitutes a potential cavity situated between the peritoneum and the transversalis fascia, lining the posterior abdominal cavity. It extends from the superior aspect of the diaphragm to the inferior border of the pelvic brim, and laterally encompasses the margin of the quadratus lumborum muscles. This space is further subdivided into three specific compartments: the anterior pararenal, perirenal, and posterior pararenal spaces.

The anterior pararenal space primarily houses digestive organs such as the ascending and descending colon, pancreas, and the retroperitoneal section of the duodenum. In contrast, the perirenal space encompasses the kidneys, adrenal glands, aorta, and inferior vena cava. The posterior pararenal space is characterized by the presence of fat, with the spine and quadratus lumborum muscles positioned posteriorly. While the space is enclosed superiorly by the diaphragm, it remains open to the pelvis and thighs, facilitating the bilateral and inferior extension of abscesses.

Retroperitoneal abscess, an infrequent infectious condition, predominantly affects individuals aged 30-50 years, showing a slight male predilection. The clinical presentation of retroperitoneal abscesses is often nonspecific, with common symptoms including fever and pain. Consequently, initial misdiagnosis or delayed diagnosis is a frequent occurrence, as observed in our case report where fever, back pain, and abdominal pain were the prevailing manifestations. The etiological agent responsible for retroperitoneal abscesses may vary depending on the origin of the infection. Polymicrobial infections involving aerobic and anaerobic bacteria are

commonly noted in cases originating from the gastrointestinal tract, with *Escherichia coli* being the most prevalent pathogen overall, followed by *Klebsiella pneumoniae*.

In instances where abscesses originate from the spine, *Mycobacteria* was identified as the most common pathogen. In our specific case, the pathogen identified belonged to the *Acinetobacter* species.

### Conflict of Interest

Not available

### Financial Support

Not available

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