

Psoas Abscess as an Atypical Presentation of Acute Necrotising Pancreatitis in a Diabetic Patient: A Case Report

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ABSTRACT

Psoas abscess can be challenging to diagnose due to non specific symptoms. It is commonly noted to have tuberculous or pyogenic aetiologies. Acute necrotising pancreatitis can be defined as pancreatitis with necrosis. This can cause the formation of a psoas pseudocyst, which may be misdiagnosed as a psoas abscess. The likelihood of misdiagnosis is higher in diabetic patients due to the associated increased risk of infection. This is a case report of a 37-year-old male presenting with fever, swelling and left lumbar region pain, with a history of long-standing diabetes and alcohol consumption. The patient was diagnosed with a pancreatic pseudocyst with left psoas abscess by Computed Tomography (CT) imaging. The abscess was treated with percutaneous drainage, culture and drug-sensitivity analysis, followed by intravenous antibiotics tailored to the results. This case highlights the need to consider necrotising pancreatitis as a potential differential diagnosis in cases of psoas abscess, particularly in cases with retroperitoneal involvement.

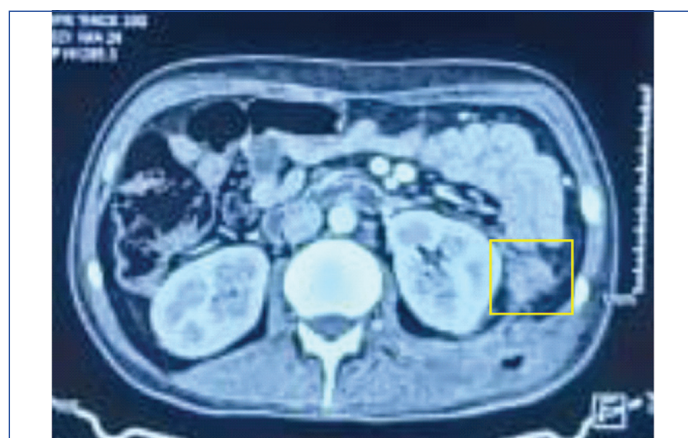
Keywords: Necrosis, Percutaneous drainage, Pseudocyst

CASE REPORT

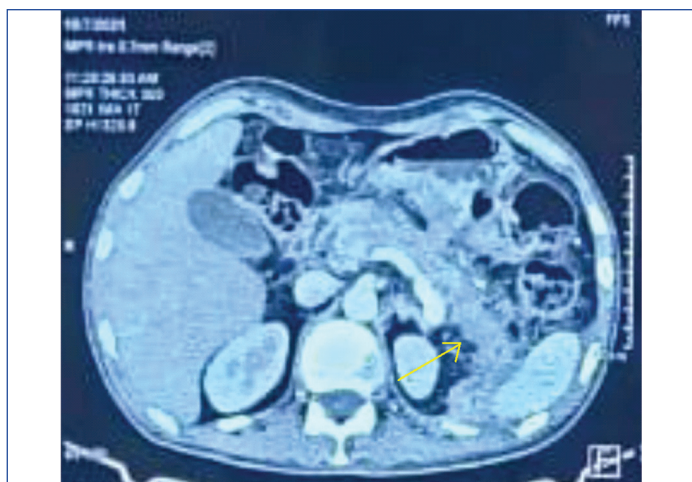
A 37-year-old male presented to the outpatient department with left lumbar swelling associated with pain since last month. He had a long history of diabetes for 10 years, which was poorly controlled. He also had a history of alcohol consumption for the last six years, drinking 150 mL to 500 mL per day. The patient was febrile. Physical examination revealed left leg oedema and pallor. Movement of the left leg was restricted due to flexion of the left hip joint. A well-defined, hemispherical retroperitoneal swelling measuring approximately 10.0×4.0 cm was present over the left lumbar region with warmth and tenderness; fluctuation was present.

Laboratory values were as follows: fasting blood glucose 136 mg/dL; urea 17 mg/dL; creatinine 0.7 mg/dL; haemoglobin 5.9 g/dL; total leukocyte count 7,200 cells/mm³. Liver function tests were normal. Serum amylase was normal. X-ray of the spine and abdomen had normal findings. Contrast-Enhanced Computed Tomography (CECT) abdomen and pelvis revealed emphysematous pancreatitis with multiple peripancreatic collections and a left psoas collection in the left lumbar region measuring 5.6×3.5 cm [Table/Fig-1]. Differential diagnoses considered were psoas haematoma, psoas sarcoma, iliopsoas bursitis and retroperitoneal lymphadenopathy.

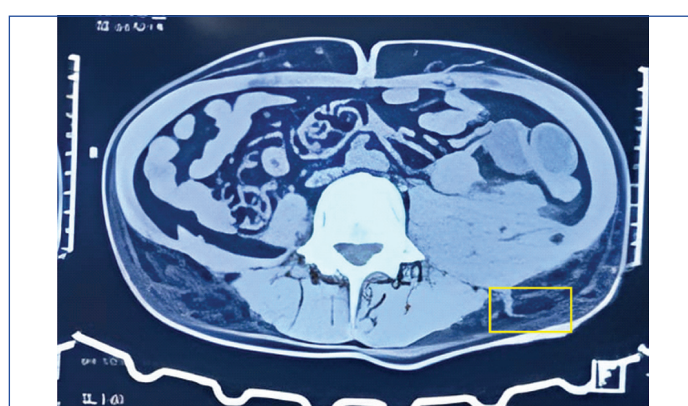
The diagnosis was primarily made by CECT abdomen and pelvis, which showed multiple peripancreatic collections with extension into the left psoas muscle [Table/Fig-2,3]. Clinically, the patient had left lumbar swelling, tenderness, warmth, fluctuation, restricted hip movement and fever, suggestive of a psoas abscess.



[Table/Fig-2]: CT scan axial view shows pancreatic abscess collection in the left lumbar region.



[Table/Fig-1]: CT scan axial view shows acute necrotising pancreatitis with pancreatic abscess tracking to retroperitoneum and perisplenic region (yellow arrow).



[Table/Fig-3]: Acute pancreatic abscess collection in the left lumbar and psoas region presenting as left psoas abscess.

The left kidney was normal. The patient subsequently underwent percutaneous drainage of the purulent fluid from the left psoas

abscess. The drained fluid was analysed microbiologically, revealing *Klebsiella* spp., which was sensitive to meropenem and was started on intravenous meropenem, 1 g IV every 12 hours. He was managed with human insulin, 8 units subcutaneously three times daily. The patient was discharged after three days with advice to abstain from alcohol and to maintain glycaemic control through a balanced diabetic diet. At 1-month follow-up, there was complete symptomatic resolution and the patient was able to resume normal daily activities.

DISCUSSION

Acute pancreatitis with necrosis of pancreatic glandular tissue is associated with higher mortality and morbidity. Mortality in cases of infected necrotising pancreatitis is reported to range from 20 to 70% [1,2]. Pancreatic necrosis occurs in approximately 15% of acute pancreatitis cases, with around 33% (ranging from 16% to 47%) developing infection in the necrotic tissue [3]. Factors such as persistent bacteraemia and the severity of illness increase the risk of infection and prophylactic medical interventions have shown limited efficacy due to poor penetration of necrotic tissue [4].

Diagnosis of acute pancreatitis can be made when at least two of the following three criteria are present: a) serum amylase and/or lipase elevated to approximately three times the upper limit of normal; b) characteristic abdominal pain; c) radiological findings on ultrasound, Magnetic Resonance Imaging (MRI), or CT showing characteristic features [2]. There are reports of atypical clinical presentations with pancreatic fluid collections in the absence of a prior history of acute pancreatitis. While these collections most commonly localise in the lesser sac, approximately 20% extend to extrapancreatic sites. In rare cases, they may present as a psoas abscess [3-5]. This phenomenon results from the high concentration of pancreatic enzymes within these collections, which can lead to tissue destruction and extension into adjacent anatomical spaces [3-5].

Psoas abscess is more prevalent in developing countries, with tuberculosis and pyogenic infections being the most common causes. However, secondary psoas abscesses are rarely reported. In particular, an infected pseudocyst arising from pancreatitis of the pancreatic tail can extend into the psoas muscle, causing flexion spasm and mimicking a psoas abscess, which is more frequently observed in diabetics with pancreatitis [6]. The reported cases have been summarised in [Table/Fig-4] [7-10].

The pancreas, especially the tail and body, lies in close proximity to the left anterior pararenal space. In necrotising pancreatitis, pancreatic enzymes and infected necrotic fluid can dissect into the anterior pararenal space and extend laterally into the posterior pararenal space and inferiorly along fascial boundaries into the perirenal space around the kidney. Fluids descend from the pararenal space along the psoas fascia into the iliopectus compartment, eventually localising as a psoas abscess. This often appears as continuous low-density tracking from the pancreas to the psoas muscle on imaging assessments [5,10,11].

This case, however, had poorly controlled diabetes, which likely contributed to rapid infection spread and abscess formation. Compared to earlier reports [1,6], where surgical drainage was often required, this case was successfully managed by percutaneous drainage and targeted antibiotic therapy, highlighting the efficacy of the step-up approach in diabetic patients with secondary psoas abscesses. Diabetes mellitus is a recognised risk factor for severe infections in acute necrotising pancreatitis due to immune dysfunction and microvascular complications. In a series by Besselink MG et al., diabetic patients had higher rates of infected necrosis and required more interventions [12]. This case aligns with these findings, as the diabetic status likely contributed to the development of the psoas abscess.

Authors	Reported cases	Age (in years)/gender	Associated risk factors	Management
Harish K et al., [7], 2006	1	40/M	-	Percutaneous drainage with standard antibiotic regime.
Deshmukh S et al., [8], 2012	1	70/M	H/o endoscopic retrograde cholangio-pancreatography for choledocholithiasis	Conservative management followed by percutaneous transgastric drainage.
Darlington CD et al., [6], 2017	1	25/M	Chronic alcohol consumption	CT guided percutaneous drainage.
Patil PM et al., [9], 2020	2	40/M 24/M	Long alcohol history H/o Tuberculosis	Exploratory laparotomy. USG guided percutaneous drainage.
Mark JD et al., [10], 2022	1	40+/M	H/o Roux-en-Y hepaticojejunostomy and open cholecystectomy for common bile duct stricture	Empiric antibiotic treatment followed by USG guided percutaneous drainage.
The present case, 2025	1	37/M	Chronic alcohol consumption	USG guided percutaneous drainage.

[Table/Fig-4]: Reported cases of acute necrotising pancreatitis with pancreatic abscess [7-10].

The success rate of percutaneous drainage is reported to be between 35% and 84% and is associated with lower mortality and morbidity, reduced costs, and fewer long-term complications. Hence, it is recommended as a common adjunct therapy to endoscopic or surgical interventions [3,12]. However, an approach such as direct endoscopic necrosectomy with the step-up approach has been found to be superior to percutaneous drainage alone and showed clinical resolution in 92% of patients in the study group [13].

Atypical presentations, such as in this case, can contribute to diagnostic delays and adversely affect patient outcomes. Surgical intervention is typically indicated in cases of clinical deterioration due to infected necrotising pancreatitis or persistent organ failure for several weeks after the onset of acute pancreatitis, in the absence of documented infection. In such cases, surgery should ideally be delayed for at least four weeks to allow the collections to become walled off [14]. However, intra-abdominal catastrophes such as haemorrhage, perforation, or abdominal compartment syndrome may necessitate immediate surgical intervention if less invasive options, such as angiographic embolisation, are unavailable [6].

CONCLUSION(S)

Prompt diagnosis and a step-up approach in managing infected pancreatic collections are crucial for achieving favourable outcomes. As illustrated in present case, acute pancreatitis with infected collections should be considered as a differential diagnosis in diabetic patients presenting with psoas abscesses. The use of CECT or MRI plays a key role in identifying the underlying pathology and guiding appropriate intervention. This diagnostic possibility helps initiate timely and targeted treatment—whether through percutaneous, endoscopic, or surgical means—ultimately improving patient prognosis.

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PLAGIARISM CHECKING METHODS: [Jain H et al.]

- Plagiarism X-checker: Jun 19, 2025
- Manual Googling: Aug 05, 2025
- iThenticate Software: Aug 07, 2025 (3%)

ETYMOLOGY: Author Origin

EMENDATIONS: 6

AUTHOR DECLARATION:

- Financial or Other Competing Interests: None
- Was informed consent obtained from the subjects involved in the study? Yes
- For any images presented appropriate consent has been obtained from the subjects. Yes

Date of Submission: Jun 13, 2025

Date of Peer Review: Jun 27, 2025

Date of Acceptance: Aug 09, 2025

Date of Publishing: Dec 01, 2025