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Case Report

Unusual presentation of pancreatic pseudocyst as a psoas abscess

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ABSTRACT

A chronic collection of pancreatic fluid (rich in amylase, lipase and enterokinase) surrounded by a nonepithelialized wall of granulation tissue and fibrosis is referred to as a pseudocyst. Though most frequent loacation is the lesser peritoneal sac, 20% are located at extra pancreatic sites like pleura, mediastinum, pelvis, spleen, liver and perinephric space. Rarely, it can be present as a psoas abscess and this type of presentation is common in middle aged men who are chronic alcoholic. Recent history of pancreatitis may be present. CECT whole abdomen is initial investigation of choice. Presence of high level of amylase and lipase in the aspirate from psoas abscess is confirmatory for the diagnosis.

Keywords: Pancreatitis, Pigtail catheter, Pseudocyst, Psoas abscess

INTRODUCTION

A chronic collection of pancreatic fluid (rich in amylase, lipase and enterokinase) surrounded by a nonepithelialized wall of granulation tissue and fibrosis is referred to as a pseudocyst. Pseudocysts occur in up to 10% of patients with acute pancreatitis, and in 20 to 38% of patients with chronic pancreatitis, and thus, they comprise the most common complication of chronic pancreatitis. It is most frequently located in the lesser peritoneal sac in proximity to the pancreas.[1-4]

Today, the most used definitions which differentiate between peripancreatic fluid collections and pseudocysts as in the Atlanta classification system for acute pancreatitis are as follows.[5]

Acute fluid collections occur early in the course of acute pancreatitis, are located in or near the pancreas, and always lack a wall of granulation or fibrous tissue.

Acute pseudocysts are constituted by pancreatic juice enclosed by a wall of fibrous or granulation tissue, arising as a consequence of acute pancreatitis or pancreatic trauma.

Chronic pseudocysts are constituted by pancreatic juice enclosed by a wall of fibrous or granulation tissue, arising as a consequence of chronic pancreatitis and lacking an antecedent episode of acute pancreatitis.

A pseudocyst is usually rich in pancreatic enzymes and is most often sterile. The formation of a pseudocyst usually requires 4 or more weeks (many clinicians state six) from the onset of acute pancreatitis.[6] Fluid collections lasting less than 4 weeks which lack a defined wall are more properly termed acute fluid collections.

Alcohol-related pancreatitis appears to be the major cause in studies from countries where consumption of strong beverages is relatively high and accounts for 59-78% of all pseudocysts.[7]

Eighty per cent of pancreatic pseudocysts are located within the head and the body of the pancreas, but 20% are

extra pancreatic (pleura, mediastinum, pelvis, spleen, liver and perinephric space).[8-10]

Few cases of pseudocyst presenting as psoas abscess has been reported.[11-14] In all the reported cases clinical features and laboratory investigations of concomitant acute pancreatitis or recent past history of acute pancreatitis has been present. In 2 reported cases of intrapsoas pancreatic psedocyst there were no evidence of clinical pancreatic disease but imaging study had revealed pancreatic pathology.[14]

Iliopsoas abscess is a rare potentially life-threatening form of extraperitoneal infection, that involves the iliopsoas compartment, which contains the psoas and iliacus muscle. Before the discovery of modern antituberculosis treatment, iliopsoas abscess was a well-recognized complication of spine tuberculosis.[15] Iliopsoas abscess can be classified as either primary or secondary. Primary abscess results from hematogenous spread of an infectious process from an occult source in the body.[15] Local trauma with resultant intra muscular hematoma formation seems to predispose to primary iliopsoas abscess formation. The secondary abscess develops by spreading of infection from contiguous anatomical structures, such as gastrointestinal and genitourinary tract, musculoskeletal system, or vascular tissue.[16,17]

Currently, medical conditions, such as a history of diabetes, injection drug use, alcoholism, renal failure, hematologic malignancy, immunosuppression and malnutrition are predisposing risk factors.[18]

This case report describes a rare case of psedocyst presenting as psoas abscess without any clinical, laboratory or imaging evidence suggesting pancreatic pathology.

CASE REPORT

A 40 year old male was admitted with swelling on left side back for 7 days and pain for 2 days. Swelling was approximately 6×5 cm size and 5 cm lateral to lumbar spine, tender and cystic in consistency. History of fever for 2 days. No history of trauma or pain in abdomen.

No symptoms suggestive of renal pathology like hydronephrosis or pyonephrosis.

Patient was alcoholic for last 4 years. He used to consume approximately 80 gm alcohol thrice a week.

Patient was known case of diabetes diagnosed 1 year back and on oral hypoglycaemic drugs.

Patient had past history of pain and cystic swelling in Left inguinal region associated with fever 2 months back. This was also associated with pain in left hip joint, flexion of hip joint and inability to extend hip due to pain. He was admitted at some other centre where he was investigated. His HB(Haemoglobin) was 11.8gm/dl and TLC (Total leucocyte count) was 10100/cu mm. Urine examination, chest x-ray and x-ray thoraco-lumber spine were normal.

On USG (Ultrasonography) whole abdomen there was an ecogenic collection on left side paravertebral region sized 168×38 mm possibly paravertebral abscess while other organs were normal. FNAC (Fine-needle aspiration cytology) showed skeletal muscle fibre with few lymphocytes and no malignant cells. CECT (Contrast Enhanced computed tomography) whole abdomen revealed 6.9×6.1×21.6 cms peripherally enhancing lesion involving left psoas muscle. Culture of aspirate from abscess was negative. Diagnosis of psoas abscess was made and treated conservatively. Patient responded and was discharged.

Patient had no history of tuberculosis or any other major illnesses. Patient's father and grandfather were also diabetic.

At current presentation at our hospital patient was investigated which shown all investigations (HB., Kidney and liver function tests, Coagulation profile, urine exam.) were normal except TLC (15940/cu mm) and chest X-ray showed left sided mild pleural effusion.

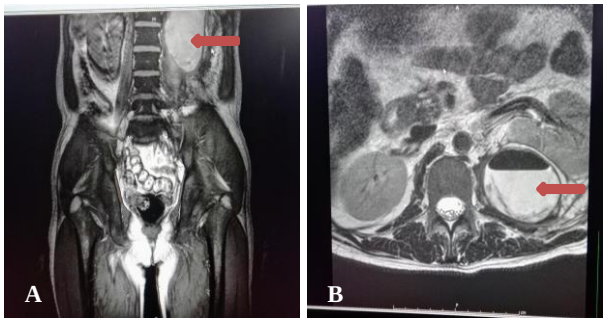

Figure 1: (A) Coronal, (B) Axial T2 weighted MRI images through the abdomen at the level of the kidneys show a well-defined hyperintense lesion.
The lesion shows few hypointense linear septae within suggestive of psoas abscess. There is associated surrounding fat stranding.The abscess is seen to displace the left kidney anteriorly. There is no involvement of the underlying vertebral bodies. The right kidney and psoas muscle appear normal.

On USG there was thick walled cavity with liquefied collection involving left psoas muscle. At the same time USG guided diagnostic aspiration was done and sent for culture, AFB (Acid Fast Bacillus) testing and fluid Gram staining. Reports were negative. MRI (Magnetic resonance imaging) dorso lumbar spine was done suspecting tuberculosis as a cause for psoas abscess (Figure 1). But it was also normal. As there was a thick walled cavity, pig tail catheter no.12 inserted under USG guidance. The drained fluid was watery and greenish black in colour (Figure 2). So we suspect something other than purulent collection. We sent fluid for testing of bile

salt and bile pigment to rule out bile, fluid urea and creatinine to rule out urine and fluid amylase and lipase to rule out pancreatic fluid. It was negative for bile and urine but positive for amylase (103800 U/L) and Lipase (11360U/L).Serum amylase and lipase were 168U/L and 147 U/L respectively. Hence the diagnosis of pancreatic psedocyst in psoas muscle was made in the absence of clinical features of pancreatitis and normal imaging of pancreas.

Figure 2: Dark greenish coloured drain output from psoas sheath collection.

Pigtail catheter was removed after 10 days as there was decreased drain output of <30 ml for last 3 days. On follow up USG after 1 month there was no any residual collection and pancreas was normal.

DISCUSSION

A case of left sided psoas abscess was provisionally diagnosed based on clinical examination and USG whole abdomen and MRI dorso lumbar spine as discussed in case presentation.

Patient had documented history of left sided psoas abscess 2 months back confirmed by CECT whole abdomen. This was thought as a recurrence of that episode. At both the incidents all intra abdominal organs were normal including pancreas on imaging. There was only localised collection in left psoas muscle. But the diagnosis was doubted because of odourless greenish black watery drain output which showed no growth on culture and negative for AFB and Gram staining.

On further detailed analysis this fluid was very rich in pancreatic enzymes amylase and lipase. No clinical features were suggestive of acute or chronic pancreatitis. There was also no past history suggestive of pancreatitis and pancreas was normal on CECT whole abdomen (at initial incident) and on Ultrasound abdomen (at current presentation). Because of that pancreatic psedocyst was not suspected and was provisionally diagnosed as recurrence of psoas abscess. There might be possibility of some pancreatic enzyme leakage due to alcohol induced toxicity which got collected in psoas sheath or missed episode of painless pancreatitis and as a complication of it psedocyst occurred in psoas sheath.[19]

In the literature few cases of pancreatico-psoas fistula has been reported in which the common presentation was groin swelling or hip pain.[20] In these cases on imaging there was either peripancreatic fluid collection or psedocyst which was extended up to groin through psoas muscle or there was fistula between pancreatic tissue and psoas muscle sheath.[21-28]

In the literature, 12 cases have been reported so far regarding pancreatico-psoas fistula or pseudocyst extending into psoas muscle in our knowledge. All these cases including our case were reviewed and following important details were found.

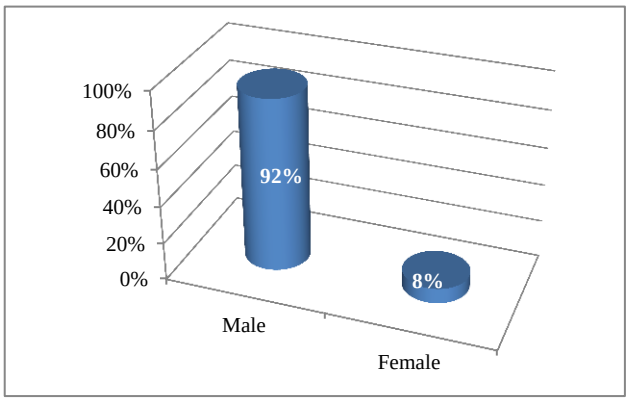

Figure 3: Gender wise distribution of patients.

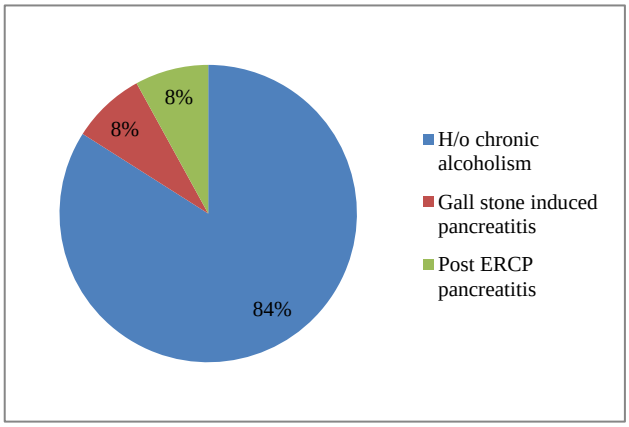

Figure 4: Distribution according to underlying cause.

Table 1: Distribution according to age group.

Age group (years)	No. of patients	%
20-29	2	15
30-39	1	8
40-49	7	54
>50	3	23
Total	13	100

From the above analysed data following points are being pointed out,

- This condition is much more common in men (12 out of 13 i.e.92%) (Figure 3)
- This condition is common in the age group of 40-49 years (54%) (Table 1).
- Most common underlying cause is chronic alcoholism (11 out of 13 i.e. 84%) (Figure 4).

CONCLUSION

A pancreatic pseudocyst, surrounded by a non-epithelialized wall of granulation tissue and fibrosis containing amylase and lipase rich fluid is complication of pancreatitis more of chronic than acute entity. Though most common location is lesser sac, rarely it may present as a psoas abscess. It is common in alcoholic and middle aged man. CECT whole abdomen is initial investigation of choice.

Recommendations

Our recommendation is whenever in an alcoholic, middle aged male patient psoas abscess is suspected and if aspirate is not purulent then differential diagnosis of pancreatic pseudocyst should be suspected and aspirate should be sent for amylase and lipase analysis.

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