



RARE CASE OF MEDIASTINAL EXTENSION OF A PANCREATIC PSEUDOCYST- CASE REPORT

Radiology

**Dr. Manjunath
Abbigeri**

Asst Prof, Dept of Radiology GIMS, Gadag.

Dr. Shwetha C*

Junior Resident, Dept of Radiology, GIMS, Gadag *Corresponding Author

Dr. Rahul Shirol

Dept of Radiology, GIMS, Gadag

**Dr. Veeresh U
Purad**

Senior resident, Dept of Radiology, GIMS, Gadag.

ABSTRACT

Pseudocyst is a common complication of acute pancreatitis. However, its extension into the mediastinum is a rare entity. Contrast-enhanced computed tomography has a very high sensitivity in providing the location and anatomical relation of the pseudocyst to the surrounding structures. Here, we present a rare case of a mediastinal pancreatic pseudocyst in a patient with acute on chronic pancreatitis.

KEYWORDS

pancreatitis, pseudocyst, mediastinal extension pseudocyst

INTRODUCTION:

Pancreatic pseudocysts are often caused by acute or chronic pancreatitis. Mediastinal pancreatic pseudocysts (MPPs) are rare complications of pancreatitis^{1,2}. An inflammatory disruption of the pancreatic duct leads to leakage of pancreatic secretions.

Anterior ductal disruption often results in pancreatic ascites, whereas posterior ductal disruption results in thoracopancreatic fistula, which can be classified into MPP, pancreatocysto-pleural fistula, pancreatobronchial fistula or pancreatocysto-pericardial fistula³.

Therefore, MPPs result from retroperitoneal extension of pancreatic fluids through the anatomical openings of the diaphragm into the mediastinum^{1,4}.

A definitive diagnosis can be made by imaging modalities, such as computed tomography (CT) or magnetic resonance imaging (MRI), showing cystic lesions extending from the pancreas into the mediastinum⁵.

Management of MPPs depends upon their size, quantity, location, and relationship to adjacent anatomical structures, as well as the presence of communication of the cyst with the pancreatic duct⁵.

Here, we present a rare case of a mediastinal pancreatic pseudocyst in a patient with acute on chronic pancreatitis.

Case Report:

A 35 year old male patient with a history of chronic alcohol consumption presented to the emergency department with a history of epigastric pain since 1 year and has aggravated since last 1week with associated dyspnea and dysphagia. On examination, the patient had tachycardia and severe epigastric tenderness with guarding.

A contrast enhanced multidetector computed tomography (CT) scan of the thorax and abdomen was done which revealed atrophic pancreas with heterogenous parenchyma and multiple tiny calcific foci throughout with peripancreatic fat strandings (figure 1).



Figure 1: Axial plain CT showing atrophic pancreas with multiple tiny calcific foci throughout with peripancreatic fat strandings.

There is a rim-enhancing cystic lesion in the lower posterior mediastinum, anterior to the oesophagus and aorta, which can be traced down through the oesophageal hiatus, contiguous with a further cystic abnormality in the distal body and tail of the pancreas. Whole together the cystic lesion measures about 14 x 3.8 x 3.6 cm (CC x AP x TR) (figure 2). Multiple focal calcifications seen throughout the pancreas. Dilated pancreatic main duct and side branches with their cystic dilatation (figure 3).

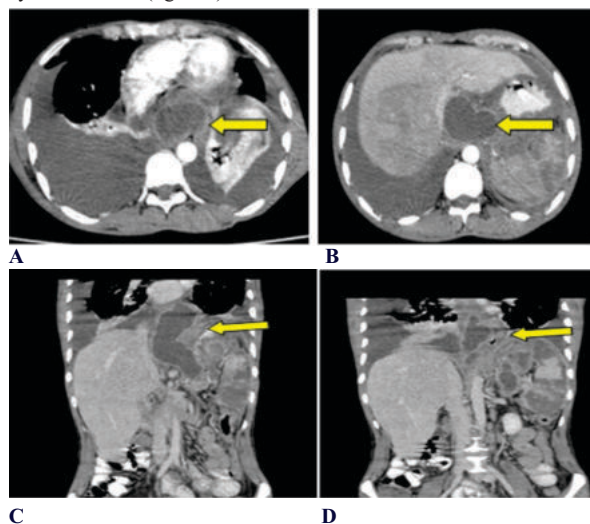


Figure 2: (A, B, C and D) Axial and coronal contrast CT shows rim enhancing cystic lesion in the posterior mediastinum which is contiguous with cystic abnormality in the distal body and tail of the pancreas representing Pseudocyst of pancreas.



Figure 3: Dilated pancreatic main duct and side branches .

There is another small rim enhancing cystic lesion seen around head part of pancreas extending to subcapsular region of inferior surface of left lobe of liver (figure 4a).

Bilateral pleural effusion (right more than left side) with compressive collapse of adjacent lung noted (figure 4b).

Mild splenomegaly with multiple wedge shaped and few discrete non enhancing areas in the parenchyma, suggesting infarcts were seen (figure 4c).

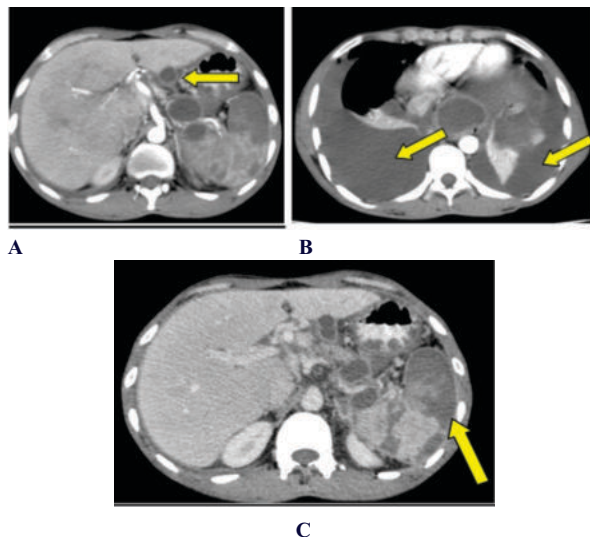


Figure 4: 4a – cystic lesion seen extending to subcapsular region of liver. 4b – Bilateral pleural effusion. 4c – multiple splenic infarcts.

DISCUSSION:

Pancreatic pseudocyst is a well known complication of acute pancreatitis (10%) and more commonly seen in chronic pancreatitis (30%–40%)⁶. Pseudocyst of the pancreas is a localized fluid collection that is rich in amylase and is surrounded by a wall of fibrous tissue. Eighty percent of pancreatic pseudocysts are located within the head and body of the pancreas and 20% are extrapancreatic and located in areas such as the pleura, mediastinum, liver, spleen, and pelvis⁷.

In mediastinal extension of pseudocyst of pancreas, the fluids extend upward through anatomical openings of the diaphragm. The fluids typically travel through the esophageal and aortic hiatus into the posterior mediastinum¹⁴. If the fluid extends through the inferior vena cava hiatus or the foramen of Morgagni the fluid extends into the middle and anterior mediastinum respectively⁽⁸⁾.

The mediastinal extension of pseudocyst of pancreas may present with dysphagia, dyspnea and hemoptysis.

The definitive diagnosis is based on imaging studies like Computed tomography (CT) or magnetic resonance imaging (MRI).

The cross sectional imaging studies show pancreatitis in the form of bulky edematous pancreas with peripancreatic fat stranding and fluid collection representing acute pancreatitis. Chronic pancreatitis represents as atrophic pancreas with parenchymal and ductal calcifications with dilated main pancreatic duct as it was seen in our case.

Pseudocyst of pancreas appear as rim enhancing cystic lesion most commonly seen in the body part of pancreas seen extending to adjacent structures like liver, spleen, kidney and mediastinum, as in our case the cystic lesion was seen extending from body part of pancreas to posterior mediastinum via esophageal hiatus.

MRI and magnetic resonance cholangiopancreatography (MRCP) provide further details of pancreatic ductal anatomy³.

Recent advances in endoscopic techniques, such as endoscopic ultrasound (EUS), are helpful in evaluating the mediastinal mass and cysts and also play an important therapeutic role by allowing EUS-guided aspiration and drainage of the cysts⁵.

The treatment options of pseudocyst of pancreas are like drainage of cyst or surgical procedures⁹. The drainage of cyst may be in the form of laparotomy, radiologically guided external drainage or endoscopically

guided internal drainage. Transcutaneous external drainage may be combined with CT guided stent placement but has the risk of complications of bleeding, infection, and clogging of catheter and pancreatic fistula⁹.

Endoscopic internal drainage may be in the form of either ERCP with transpapillary duct drainage when there is a communication between pancreatic duct and mediastinal pseudocyst or may be in the form of transmural drainage using endoscopic ultrasound. Open surgical procedures such as cystogastrostomy, cystojejunostomy, pancreaticojejunostomy, and transdiaphragmatic cystojejunostomy with loop Roux-en-Y are reserved for complicated mediastinal pseudocysts such as infections, obstruction, rupture, or hemorrhage.

CONCLUSION:

Pancreatic pseudocyst extension into mediastinum is a rare entity which can present with cardiothoracic or gastrointestinal symptoms. Clinical symptoms, contrast enhance CT scan and serum lipase level can lead to accurate diagnosis. The correct diagnosis is important for surgical planning and treatment.

REFERENCES:

1. Cameron JL. Chronic pancreatitis ascites and pancreatic pleural effusions. *Gastroenterology* 1978;74:134–140.
2. Rose EA, Haider M, Yang SK. Mediastinal extension of pancreatic pseudocyst. *Am J Gastroenterol* 2000;95: 3638–3639.
3. Tajima Y, Tsutsumi R, Kuroki T, et al. Evaluation and management of thoracopancreatic fistula. *Surgery* 2006; 140:773–778.
4. Gupta R, Munoz JC, Garg P, et al. Mediastinal pancreatic pseudocyst-a case report and review of the literature. *Med Gen Med* 2007;9:8.
5. Ajmera AV, Judge TA. Mediastinal extension of pancreatic pseudocyst: a case with review of topic and management guidelines. *Am J Ther* 2012;19:e152–156.
6. Gupta R, Munoz JC, Garg P, Masri G, Nahman NS Jr, Lambiase LR, et al. Mediastinal pancreatic pseudocyst – A case report and review of the literature. *MedGenMed* 2007;9:8.
7. Wang SJ, Chen JJ, Changchien CS. Sequential invasions of pancreatic pseudocysts in pancreatic tail, hepatic left lobe, caudate lobe, and spleen. *Pancreas* 1993;8:133–136.
8. Xu H, Zhang X, Christie A, et al. Anatomic pathways of peripancreatic fluid draining to mediastinum in recurrent acute pancreatitis: visible human project and CT study. *PLoS One* 2013;8:e62025.
9. Ito H, Matsubara N, Sakai T, et al. Two cases of thoracopancreatic fistula in alcoholic pancreatitis: clinical and CT findings. *Radiat Med* 2002;20:207–211.