

## Dissecting mediastinal pseudocyst presenting with dysphagia: Role of multimodality imaging

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Received – 20 January 2017

Initial Review – 10 February 2017

Published Online – 11 June 2017

### ABSTRACT

Pancreatic pseudocysts are the most common cystic lesions of the pancreas, accounting for 75-80% of such masses. Pancreatic pseudocyst with mediastinal extension is a rare clinical entity. Extrapancreatic fluid collections are more often detected in the lesser sac, in the anterior pararenal space, in the posterior pararenal space, in or around the left lobe of the liver, and in the spleen. The extra-abdominal extension is infrequent and the mediastinum is a rare site for the extension of the pancreatic secretion. We present a case of pancreatic mediastinal pseudocyst that presented with palpitations and dysphagia.

**Key words:** Mediastinal cyst, Pancreas, Pseudocyst

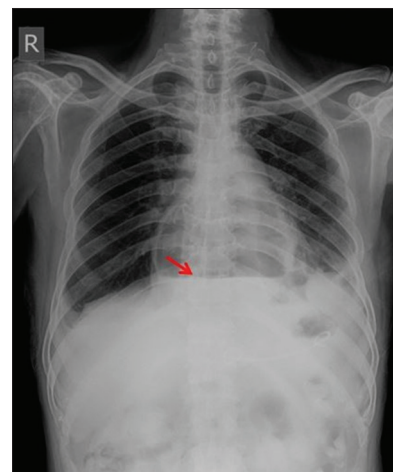
Pseudocyst formation is a common complication of chronic pancreatitis. Usually, these cysts are located inside and around the pancreas, and most often arise due to leakage of pancreatic secretions into surrounding tissues. In some cases, the connection between the cyst and the pancreas is not evident on computed tomography (CT) or magnetic resonance imaging. Rarely, pancreatic pseudocysts can extend to the mediastinum [1]. They may lead to pleural or pericardial effusion, cardiac compression due to mass effect and dysphagia [2]. We report the case a patient with a history of ethanol-induced chronic pancreatitis suffering from intermittent dyspnea and difficulties in swallowing solid foods. Imaging revealed large cystic lesions in the posterior mediastinum and upper abdomen.

### CASE REPORT

A 45-year-old gentleman with a history of chronic alcoholic intake presented to the surgical OPD with epigastric pain and dysphagia since 5 weeks, worsened in the last 1 week with associated dyspnoea. On examination vitals were stable and epigastric tenderness with guarding was elicited. Serum amylase and lipase levels were investigated and found to be elevated, in the range of 946 U/L and 4521 U/L respectively.

Imaging evaluation included a chest radiograph that revealed mediastinal air-fluid level (Fig. 1) with bilateral costo-phrenic angle blunting. The stomach gas bubble was noted in its normal position below the left diaphragmatic crus. A penetrated supine radiograph of the chest was done next which revealed left lateral displacement of the Ryle's tube which is suggestive of the extrinsic mass effect on the esophagus (Fig. 2). A contrast-enhanced multidetector CT scan of the thorax was done which

revealed a thin-walled lesion with fluid attenuation in the posterior mediastinum extending superiorly up to the carina and inferiorly up to the pancreatic tail through the esophageal hiatus of the diaphragm. There is a mass effect on the left main bronchus, left atrium and pulmonary veins. The esophagus is displaced laterally to the left with resultant luminal narrowing. Hypodense pancreatic parenchymal foci noted within the tail region with peripancreatic inflammatory changes. Bilateral pleural effusions noted with subsegmental atelectasis of postero-basal segments of bilateral lungs (Figs. 3 and 4). Endoscopic cystogastrostomy with drainage of the pseudocyst was done on the following day resulting in complete symptomatic relief and follow-up imaging showed near total resolution in cyst size (Fig. 5).



**Figure 1:** Frontal chest radiograph showing mediastinal air fluid level (arrow) with bilateral costo-phrenic angle blunting. The stomach gas bubble was noted in its normal position below the left diaphragmatic crus

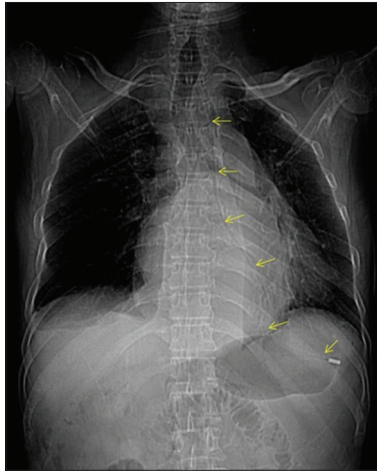


Figure 2: Penetrated supine chest radiograph showing left lateral displacement of the Ryle's tube which is suggestive of extrinsic mass effect on the oesophagus (arrows)

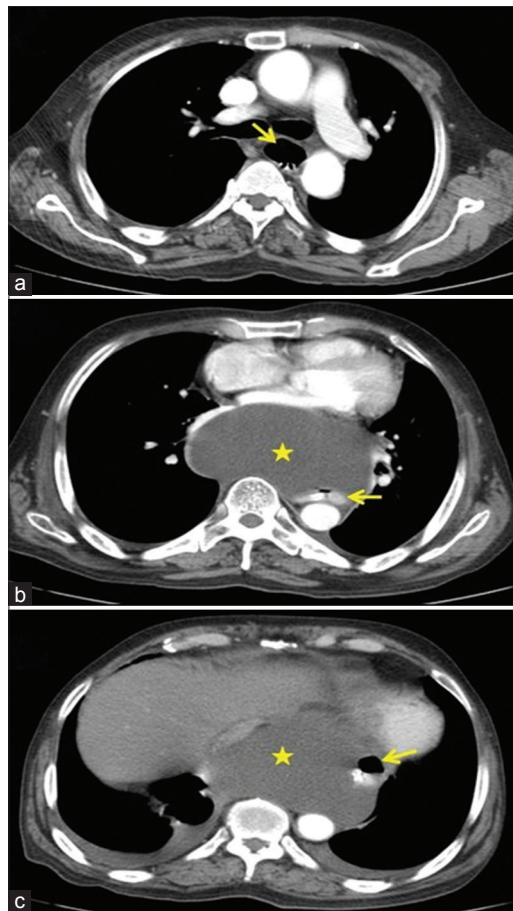


Figure 3: (a-c) Axial sections of contrast enhanced multidetector computed tomography scan of the chest showing a posterior mediastinal lesion (star) with fluid attenuation causing lateral displacement of the oesophagus with Ryle's tube *in situ* (arrow)

## DISCUSSION

A pseudocyst is a collection of pancreatic secretions, blood, and cellular debris, which often breaks through the pancreatic capsule and liberates the enzymes and pancreatic juice. The unresorbed fluid collections can organize and, within 4-6 weeks develop a fibrous capsule, forming a pseudocyst. The main

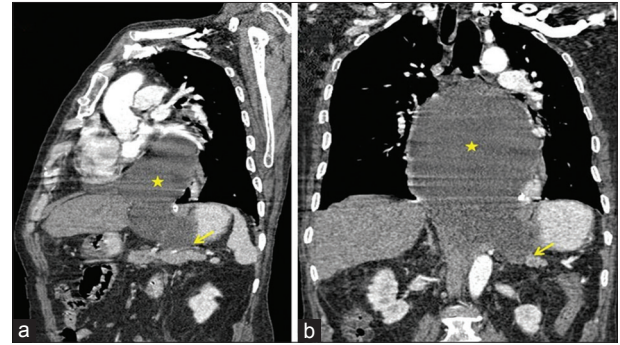


Figure 4: Reformatted coronal image (a) and true coronal sections (b) of contrast enhanced multidetector computed tomography scan of the chest showing collection (star) extending up to pancreatic tail (arrow)

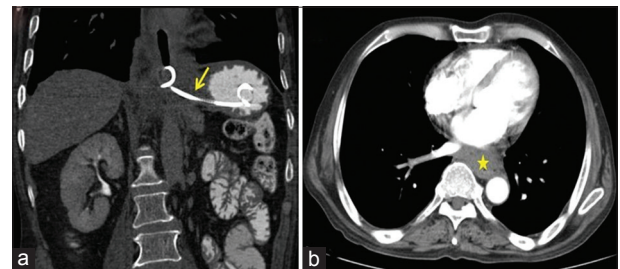


Figure 5: Coronal (a) and axial (b) sections of contrast-enhanced computed tomography (CT) contrast enhanced multidetector CT scan of the chest following endoscopic cystogastrostomy with drainage tube *in situ* (arrow) showing near complete resolution of the posterior mediastinal pseudocyst (star)

causes of pancreatic pseudocysts are chronic alcoholism (75%) and abdominal trauma (13%), with cholelithiasis, pancreatic carcinoma, and idiopathic causes composing the remainder [3].

The pseudocyst is bound to the pancreas by inflammatory tissue. Pseudocysts in chronic pancreatitis have a higher incidence as compared to acute pancreatitis. They can be single or multiple. Most cysts (90%) are single. They vary greatly in size, are rounded or oval, and are located either within the pancreatic gland or outside it. The most common site of involvement is the lesser sac. However, an enlarging pseudocyst dissects along the planes of least resistance and may extend through anatomically preformed points passage such as the aortic and esophageal hiatus or more rarely, the foramen of Morgagni. Pleural effusions are seen in the majority of mediastinal pseudocyst cases [4].

The clinical significance of a pseudocyst is related to its size and to potentially lethal complications that may occur. The pseudocyst may displace or compress the adjacent organs and can produce the symptoms related to that organ [5]. In our case, dysphasia was one of the presenting complaints due to compression of the esophagus with the pseudocyst. Spontaneous rupture, erosion into an adjacent vessel or secondary infection of the cyst is other complications of the pseudocyst.

## CONCLUSION

The extension of a pancreatic pseudocyst into the mediastinum is an uncommon clinical entity, which can present with gastrointestinal

symptoms. Mediastinal pseudocyst should be suspected in a patient clinically diagnosed to have pancreatitis with sudden onset of dysphagia. Clinical presentation, raised serum amylase and lipase levels, demonstration of mediastinal extension of the cyst on CT helps in clinching the diagnosis of a mediastinal pseudocyst. Correct preoperative diagnosis is important for proper surgical treatment since a mediastinal pseudocyst is best managed without thoracotomy. Endoscopic cystogastrostomy with drainage of the pseudocyst is useful for symptomatic relief.

## REFERENCES

1. Di Cesare E, Di Sibio A, Gennarelli A, Felli V, Vellucci V, Casazza I, et al. An unusual case of ascending pancreatitis with mediastinal involvement: A case report with CT and MRI findings. *Case Rep Radiol*. 2014;2014:925105.
2. Drescher R, Köster O, Lukas C. Mediastinal pancreatic pseudocyst with isolated thoracic symptoms: A case report. *J Med Case Rep*. 2008;2:180.
3. Nasa M, Choudhary V, Patil G, Puri R. Mediastinal pancreatic pseudocyst. *J Dig Endosc*. 2016;7(1):20-3.
4. Gupta R, Munoz JC, Garg P, Masri G, Nahman NS Jr, Lambiase LR. Mediastinal pancreatic pseudocyst--A case report and review of the literature. *MedGenMed*. 2007;9(2):8.
5. Komtong S, Chanatrirattanapan R, Kongkam P, Rerknimitr R, Kullavanijaya P. Mediastinal pseudocyst with pericardial effusion and dysphagia treated by endoscopic drainage. *J Pancreas*. 2006;7(4):405-10.

*Funding: None; Conflict of Interest: None Stated.*

**How to cite this article:** Ravikanth R, Sarkar PS, Kale A, Philip B. Dissecting mediastinal pseudocyst presenting with dysphagia: Role of multimodality imaging. *Indian J Case Reports*. 2017;3(3):122-124.