



MEDIASTINAL PSEUDOCYST: A RARE ASYLUM FOR A COMMON DISEASE

General Surgery

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ABSTRACT

Pseudocyst is one of the commonest complications following pancreatitis. However, a mediastinal pseudocyst is a rare entity which demands a high index of suspicion for diagnosis. We report a case of a 42 years old male who presented to the emergency with cough, retro-sternal chest pain, progressive dysphagia and vomiting. He was a chronic alcoholic with multiple hospitalisations in past 4 years for recurrent episodes of severe acute pancreatitis. There was left sided pleural effusion on chest radiograph and extrinsic compression of distal oesophagus and proximal stomach from posterior aspect on endoscopy. Abdominal computed tomography (CT) revealed a large pseudocyst abutting the body of pancreas and extending superiorly into the mediastinum. Patient was treated conservatively and given total parenteral nutrition followed by Ryle's tube feeding. He improved, started accepting orally and was discharged. Patient was asymptomatic on follow up and repeat CT scan after 6 weeks showed significant decrease in the size of collection.

KEYWORDS

Mediastinal pseudocyst, pancreatitis, dysphagia

INTRODUCTION

Pancreatic pseudocyst is one of the commonest complications following pancreatitis and occurs due to either stenosis or disruption of the pancreatic duct leading to leakage of amylase-rich pancreatic secretions along the path of least resistance. Posterior disruption leads to thoraco-pancreatic fistula which is of four types: pancreatico-pleural, pancreatico-bronchial, pancreatico-pericardial and mediastinal pseudocyst.^[1] Mediastinal pseudocyst is quite rare and may present with dysphagia, chest pain or palpitations and in extreme cases pericardial effusion, tamponade and respiratory distress.^[2] High index of suspicion is often needed for diagnosis. Pancreatic ductal morphology and its communication with the pseudocyst hold the key for successful management.

Case Report

Our patient was a 42 years old male alcoholic who presented in the emergency with progressive dysphagia, more to liquids than solids for 2 weeks and vomiting for 1 week. He had cough and retro-sternal chest pain for one month which was radiating to back and left shoulder tip. The patient had been hospitalized multiple times in past 4 years for recurrent episodes of severe acute pancreatitis and had pleural tap thrice with straw coloured aspirate in the first two and cola-coloured in the last one, detailed records of which were not available.

On examination he was pale, hypovolemic with tenderness in upper abdomen. Blood tests confirmed mild anaemia and an amylase level of 191 U. X-ray chest revealed left pleural effusion with underlying consolidation (Fig. 1a). Mild congestion with extrinsic compression of the distal oesophagus and posterior aspect of proximal stomach was seen on upper GI endoscopy. Abdominal computed tomography showed atrophic pancreas, a small intra-pancreatic collection of size 1.3×1.2 cm and a large well defined collection of 14×9×7 cm abutting the body of pancreas which was extending superiorly into the mediastinum, posterior to the heart, on left side of oesophagus and anterior to the descending aorta (Fig. 2a). Barium swallow confirmed the external oesophageal compression with free flow of dye in to the stomach (Fig. 1b).

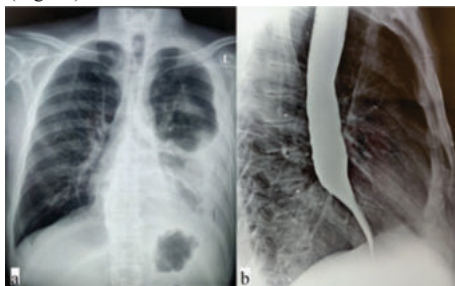


Fig. 1a X-ray Chest Showing Left Pleural Effusion With

Underlying Consolidation, 1b Barium Swallow Showing Slight External Compression Of Lower Oesophagus

Based on investigations, the diagnosis of mediastinal pseudocyst due to alcoholic pancreatitis was made. The patient was treated conservatively with injection octreotide, antispasmodics, prokinetics and proton pump inhibitors. The patient was given total parenteral nutrition followed by Ryle's tube feeding. Patient improved and started accepting orally. Repeat CT scan after 6 weeks showed significant decrease in the size of collection to 7×5×5 cm abutting body of pancreas and extending superiorly into mediastinum (Fig. 2b).

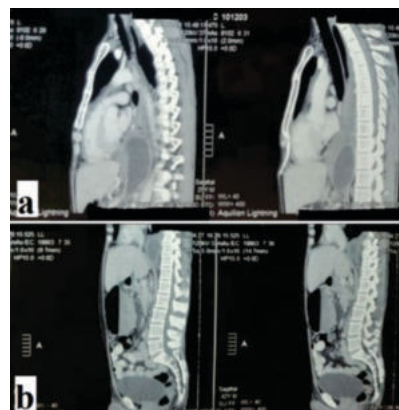


Fig. 2a CECT Abdomen Showing A Large Mediastinal Pseudocyst, 2b CECT Abdomen Showing Significant Decrease In Size Of Mediastinal Pseudocyst

The patient is asymptomatic, abstaining from alcohol, on fat free diet and on regular follow up for the last six months.

DISCUSSION

Pancreatic pseudocysts have been reported in patients aged 7 months to 73 years. The most common cause is alcoholic pancreatitis (75 - 90%) in adults and trauma in children.^[1] Incidence of pancreatic pseudocyst following pancreatic injury has been reported to be around 20%. They are seen usually in peri-pancreatic region but can rarely be seen in atypical locations like liver, spleen, kidney, pelvis, mediastinum causing challenges in diagnosis and management. It happens because enlarging pseudocyst dissects along the planes of least resistance, thus extending into thorax through aortic hiatus, oesophageal hiatus or foramen of Morgagni.

The most common symptom noted in the literature is weight loss (85% of the patients). It can cause dysphagia due to oesophageal compression, congestive cardiac failure by compression on heart, erosion of pericardial sac causing life threatening cardiac tamponade and erosion into pleural space causing pleural effusion. Dysphagia can be due to extrinsic compression or pseudo -achalasia as a result of vagal neuropathy or nonspecific response to mechanical compression. Physical examination in most of the patients is of little help in establishing the diagnosis. Chest X-ray may show a pleural effusion in about 53% of the patients. Serum amylase is elevated in about 60% of the patients. Ultrasonography easily diagnoses peri-pancreatic pseudocyst but it is less helpful here due to the location. Upper gastrointestinal roentgenographic examination may show distal oesophageal displacement depending on the location of the pseudocyst.

Computed tomography (CT) provides the exact location and anatomical relation of the pseudocyst to the surrounding structures with a very high sensitivity and also the connection between the mediastinum and the pancreatic pseudocyst. On CT it appears as a cystic low attenuation mass with iso-attenuated or hyper-attenuated content depending upon haemorrhage or infection. MRI can help in delineating the communication of mediastinal pseudocyst with an abdominal pseudocyst. In addition, ductal morphology like disruption, communication with pseudocyst, stricture and dilatation are best defined by magnetic resonance cholangiopancreatography (MRCP). Endoscopic ultrasonography (EUS), an important diagnostic tool for the evaluation of mediastinal mass and cyst, can also help in planning the optimal therapy.

Management depends on clinical symptomatology, aetiology, duct anatomy, size of pseudocyst and availability of expertise. Spontaneous resolution is a rare event and in the vast majority of cases, intervention is mandatory. Conservative treatment with intravenous fluids, analgesics, antiemetics, low fat diet, enzyme supplementation and complete abstinence from alcohol is indicated in all stable patients. In addition, somatostatin analogue has been used in a few cases.

EUS assisted drainage, either trans-oesophageal or trans-gastric results in immediate technical success in 90 - 95% of the patients and long-term success in 85-90% of the patients.^[3] Few reports have described successful resolution of mediastinal pseudocyst with ERCP guided trans papillary stenting of the pancreatic duct. But general complication rate of endoscopic management is ~ 5% and it recurs in ~15% of the patients.^[4] Percutaneous cysto-gastrostomy utilizing double pigtail catheter is another option for management.

But laparotomy for internal drainage is still the optimal way to manage mediastinal pseudocyst because of low morbidity and low recurrence rate. To date, surgery with or without pancreatic necrosectomy is the most commonly used treatment alongside internal drainage like cysto-gastrostomy, cysto-jejunostomy or pancreato-jejunostomy.^[5]

Key Learning Points

- The formation of pseudocyst is a recognized complication following acute or chronic pancreatitis.
- Usually located in peripancreatic areas, it has also been reported to occur in atypical regions like liver, pelvis, spleen and mediastinum.
- The mediastinal pseudocyst is a rare entity and presents with myriad of symptoms due to its unique location.
- Mediastinal pseudocyst is rare and requires a multidisciplinary and tailored approach to management for optimal outcome.

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