Mediastinal Pseudocyst in Acute on Chronic Pancreatitis

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Abstract

Pseudocyst is a common complication of Acute and chronic pancreatitis. However, its extension into the mediastinum is a rare entity. We present a case of 52 years male with acute on chronic pancreatitis (alcohol related) who presented with dysphagia and dyspnoea and was found to have a pancreatic pseudocyst extending upto the neck. Ultrasound fails to pick up mediastinal pseudocysts and requires additional imaging modalities - CT and MRI. Management of Mediastinal pseudocyst depends upon underlying etiology, ductal anatomy, size of the pseudocyst, and availability of expertise. Small pseudocysts in asymptomatic patients may resolve spontaneously, but requires prolonged conservative therapy with somatostatin or its analogue and Total Parenteral Nutrition. Ruptured pseudocyst in a symptomatic unstable patient requires surgical resection. Endoscopic ultrasound guided drainage (transmural or transpapillary) and Main Pancreatic Duct stenting are safe and effective treatment modality.

Introduction

Chronic pancreatitis (CP) is a progressive, inflammatory disease of the pancreas, leading to slow destruction of pancreatic parenchyma and progressive fibrosis.¹ It presents clinically as upper abdominal pain with or without exocrine and/or endocrine insufficiency occurring late in the course of the disease (>90% loss of pancreatic function) resulting in steatorrhea and diabetes mellitus.

The prevalence of CP in India is 115-200/100,000 population as compared to 10-15/100,000 in the West.² The common complications of CP are pseudocysts (15.8%), biliary obstruction (8.2%) and Pancreatic cancer (4.1%).³

We present a case of acute on chronic pancreatitis with pseudocyst extending upto the neck.

Case Report

A 52 years gentleman, consuming alcohol about 100 grams/day for the last 28 years; was admitted with pain in upper abdomen for last 2 months which was continuous and radiating to the back, severe in intensity requiring injectable analgesics and worsened over the last one week. It was associated with dysphagia for both solids and liquid and dyspnea. He also noticed a firm swelling on the right side of neck (Figure 1) and painless swelling of the right hand (Figure 2). General examination revealed fullness of right side of neck along with swelling of right upper limb. On systemic examination, he was found to have ascites without any organomegaly and bilateral pleural effusion. Biochemical investigations revealed Hb-12.4 G%, TLC-14400, PLT-340 x 10³, LFT/KFT-normal and S. Amylase -1090 u/L. He underwent a CECT abdomen and chest (Figure 3) which revealed calcification in head of pancreas with grossly dilated MPD, a 5.6 x 3.6 cms heterogeneously enhancing peripancreatic collection extending upto the neck and compressing the heart, esophagus, stomach and trachea. The ascitic fluid examination revealed a protein of 2.3 G% and amylase of 17380 U/l but no cells. His endoscopy revealed extrinsic compression of esophagus with no varices (Figure 4). A 2D ECHO revealed mild AR and trace TR but no pericardial effusion and a LVEF of 75%. He was put on Octreotide, IV fluids, Inj. Cefotaxime and was kept NPO but condition did not improve and he was referred to other center for pancreatic stenting and EUS guided drainage of fluid collection as these facilities were not available in our hospital.

Discussion

Diagnosis of acute on chronic pancreatitis was made on clinical and morphological criteria. Clinical presentation of severe pain in abdomen, raised amylase and CT finding of calcification of pancreas and dilated
Pancreatitis. The acute complications of acute pancreatitis (10%) and more commonly seen in chronic pancreatitis (30-40%).

**Pancreatic pseudocyst** is a well known complication of acute pancreatitis, which can result in exocrine and endocrine insufficiency.

Pancreatic pseudocysts are seen in the peripancreatic region but can rarely be seen in atypical locations - liver, spleen, kidney, mediastinum and pelvis causing challenges in diagnosis and management. Two-third of pseudocysts are connected with the pancreatic duct system, either directly (ductal disruption due to increased pancreatic ductal pressure-stenosis, calculi or protein plugs obstructing the main pancreatic ductal system) or indirectly due to the pancreatic necrosis following an attack of acute pancreatitis. The acute complications of pseudocysts are rupture (into GI tract/peritoneum/vascular), infection or haemorrhage (catastrophic course due to erosion of a major vessel in the vicinity of the pseudocyst). The chronic complications of pseudocyst are gastric outlet obstruction, Biliary obstruction and portal hypertension (due to compression of splenic/portal vein). Very rarely the ductal disruption occurs in retroperitoneum which then tracks into the mediastinum through the esophageal, aortic, foramen of Morgagni or directly through the diaphragm causing dysphagia and dyspnea as was seen in our patient.

Mediastinal pseudocyst has been reported as small case series. Bhasin's series from Chandigarh reported 12 patients of mediastinal pseudocyst in a decade wherein M:F ratio was 10:2, mean age 36.1 (range 21-52) years, CP was seen in 9 cases and AP in 3 cases. Alcohol as etiology was seen in 67% cases, biliary and idiopathic CP in 16% each. Abdominal pain was the most common symptom; dyspnea in 42% and dysphagia in 17% (2 cases had both with large pseudocysts - 6 and 8 cms). USG could not pick up the collection and all patients required CT or MRI for diagnosis.

Ideal management for mediastinal pseudocyst would depend upon aetiology, ductal anatomy, size of pseudocyst and expertise available at the centre. Medical treatment would result in spontaneous recovery for small pseudocysts with NPO, octreotide injections but causes prolonged morbidity. Surgical decompensation procedures are varied and include pancreatic resection and/or internal or external drainage which are invasive procedures requiring laparoscopic and thoracoscopic procedure. Endoscopic ultrasound is increasingly being used to guide transmural internal drainage of mediastinal pseudocyst. It helps to identify wall thickness, the site to be punctured in a non bulging pseudocyst as well as help avoid major vessels puncture. Endoscopic drainage of 11 out of 12 patients in Bhasin’s series resolved in 6 weeks with transpapillary drainage. All patients had ductal disruption and needed pancreatic stenting.

Our patient is unique in many ways. Although he had acute on chronic pancreatitis (alcohol related), he did not have exocrine/endocrine insufficiency, which anyway comes late in the disease. He presented in the first week with acute abdominal pain, dysphagia and dyspnea. CECT revealed pancreatic pseudocyst extending unto the neck and compressing the subclavian vein, esophagus and the trachea. Trial of conservative treatment did not work and the patient refused endoscopic treatment and left against medical advice.

In conclusion, mediastinal pseudocyst should be suspected in a patient of pancreatitis with sudden onset of dysphagia and dyspnea and is a rare but life-threatening complication. A high index of suspicion is required by the physician as USG fails to pick up the lesion and needs CT/MR. Medical management for small pseudocyst requires NPO, Inj. octeotide but rarely undergoes spontaneous resolution and would require EUS drainage and/or MPD stenting and has largely replaced surgical intervention.

**References**