A RARE CASE OF RECURRENT PLEURAL EFFUSION

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ABSTRACT

BACKGROUND
Pancreaticopleural fistula is a rare complication of chronic pancreatitis due to posterior disruption of pancreatic duct. It is also caused by leakage from pseudopancreatic cyst. It poses a diagnostic problem since source of pleural effusion is extrathoracic. Here, we report a case of a 40-year-old patient with pancreaticopleural fistula.

KEYWORDS
Pancreaticopleural Fistula, Pseudopancreatic Cyst, Alcoholic Pancreatic Disease.


BACKGROUND
Pancreatic fistula is of two types, external and internal. External fistula communicates with exterior of body via abdominal wall. Internal fistula includes pancreatic ascites, mediastinal pseudocyst, pancreaticopleural fistula. It was first described by Smith in 1953(¹) and elaborated by Cameron et al. Classic description of a patient with pancreaticopleural fistula is middle-aged chronic alcoholic person with breathlessness. Four out of five patients are males. Common presentations(²) are breathlessness (65-76%), abdominal pain (29%), cough (27%) and chest pain (23%). Left-sided pleural effusion is seen in 76%, right sided in 19% and bilateral in 14%. Aetiological factors include alcohol abuse (67%),(³) pseudopancreatic cyst (43-79%), gallstones, pancreatic duct anomaly, abdominal trauma (0.5%).

Case Report
A 40-year-old male patient presented with cough and breathlessness for two weeks duration. Cough was non-productive type with no associated chest pain or fever. His breathlessness progressively increased. There was no wheeze. No history of palpitation or paroxysmal nocturnal dyspnoea. No history of loss of weight.

History of recurrent episodes of abdominal pain associated with vomiting in the past noted. No history of melaena, loose stools or jaundice. No history of diabetes, hypertension, tuberculosis, bronchial asthma or other comorbidities in the past.

He is a chronic smoker (Smokes 8 to 10 cigarettes per day for past 15 years) and an alcoholic (4 to 5 pegs of brandy a day almost all days for 15 years).

On Examination
Conscious and oriented, moderately built and nourished person, no pallor, icterus, clubbing, cyanosis, lymphadenopathy or oedema, tachypnoea at presentation, afebrile, pulse 100/min. regular and his BP was 130/80 mmHg.

Respiratory System
Trachea shifted to right side, decreased chest movements on the left side, apex beat not visible, fullness in the left hemithorax, chest expansion decreased on the left side, vocal fremitus decreased on the left side, stony dullness on percussion whole of left side, breath sounds decreased on the whole of left side, vocal resonance decreased on the left side.

Gastrointestinal System
No visible mass seen, no engorged vein. Abdomen soft, no mass palpable, no hepatosplenomegaly, inguinal orifices normal.

Cardiovascular System
Normal 1st and 2nd heart sounds, no murmur.

Nervous System
No focal neurological deficit.

Investigations
- CBC: TC-15100, DC-N75, L16. HB-13.9 g%. MCV ~91 fl. Plt-295 L/cu.mm, ESR-65 mm/1 hr, PT/INR- 15.2/1.06.
- LFT: TB/CB-0.4 mg/dL, TP/alb- 7/3.1 g/dL, ALT- 84 U/L, ALP -187 U/L. RFT: Blood urea- 20 mg%, S.Cr- 0.7 mg%, SE- 130/3.9 mEq/L, serum amylase-330 U/L (35-140), serum lipase- 480 U/L (0-60 ). Mantoux test-negative. ECG – WNL, Urine R/E – normal.
- X ray Chest: Homogenous opacity whole of left side, mediastinum and trachea pushed to right.
- Pleural fluid study: TC – 25 cells, L - 100%, Sugar – 124 mg/dL, Total protein ~4.2 g, Albumin -2.1 g, ADA -30 (<30 -negative, 30-40-suspect, >60-positive), LDH- 591 u/L, Amylase - 23800 u/L ( < 150 ), Lipase - 2170 U/L.
- CECT Thorax and Abdomen: pleural fluid left side, basal pleural thickening, pseudocyst neck of pancreas with communication to left pleural cavity- pancreaticopleural fistula.
Diagnosis
Chronic Pancreatitis with Pseudocyst neck of pancreas, Pancreaticopleural fistula, Left-sided pleural effusion.

Our patient was managed with tube thoracocentesis and injection octreotide for 3 weeks, and he became symptomatically better. Repeated thoracocentesis done for him for two times. Now patient is better.

DISCUSSION
Common presentation of pancreatic pleural fistula are dyspnoea (65 to 76 %), cough 27%, chest pain 23%, abdominal pain 29%, concomitant involvement of other body cavities may also occur like pancreatic ascites with pleural effusion in 20% of cases and pleural effusion with pericardial effusion 4%. Aetiological factors include alcohol abuse (67%), biliary duct obstruction in children, gallstone, abdominal trauma (0.5%), pancreatic duct anomaly.

Pseudocyst is found in 43 to 79% cases of pancreaticopleural fistula. Pancreaticopleural fistula is diagnosed with high index of suspicion. A pleural tap was done for our patient on day #1 itself to relieve his symptoms. But repeat X-ray showed massive pleural effusion again on left side. Even after repeated tapping, pleural effusion remained the same. With the history of alcoholism, recurrent abdominal pain and unresolving pleural effusion, we thought of possibility of abnormal connection to pleura from pancreas due to pancreatitis. Pleural fluid amylase in the correct clinical setting virtually clinches the diagnosis. Usually amylase will be more than 1000 U/L and lipase will be high. CECT abdomen and thorax helps in delineating the connection of pancreas with pleura. Endoscopic retrograde cholangiopancreatography and magnetic resonance cholangiopancreatography help in diagnosis and therapy.

Treatment options are both medical and surgical.

Medical therapy is indicated in a normal or mildly dilated duct or if no strictures in pancreatic duct. Thoracocentesis or tube thoracostomy is performed and somatostatin congeners like octreotide is used to medically treat PPF. Endoscopic management includes ductal disruption in the head or body of pancreas. Other options include ERCP guided stent placement and oesophageal ultrasound guided ERCP. Surgery is indicated in complete ductal disruption, ductal obstruction proximal to fistula, ductal disruption that cannot be bridged using a stent, ductal stricture that cannot be stented, leak in the tail region failure of medical or endoscopic management, symptomatically fit patient. Pancreatic resection and enteropancreatic anastomosis (Puestow procedure) are surgeries performed for correcting pancreaticopleural fistula.

CONCLUSION
This case is a classic example of pancreaticopleural fistula. A high index of suspicion should be kept to reach diagnosis. Pleural fluid amylase and lipase levels helped to clinch diagnosis here. If an alcoholic patient with recurrent abdominal pain in the past presents with breathlessness and chest discomfort on either side, there is a high possibility of pancreatitis with pleural effusion.

REFERENCES
