

Case Report

Hemorrhagic pleural effusion due to pseudo-pancreatic cyst

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Abstract Hemorrhagic pleural effusion is a common clinical entity still diagnosis is often missed. An unusual and often over-looked cause of pleural effusion is an intra-abdominal process including complication arising due to pancreatitis. We report a rare case of massive left sided hemorrhagic pleural effusion in a patient due to pancreatic pathology.

Key Words: Abdomen, alcohol, bleeding, chest pain, fistula, neoplasm, pancreas, trauma

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INTRODUCTION

Hemorrhagic pleural effusion is a common entity still definitive diagnosis is often missed. Trauma is the common cause presenting with hemorrhagic effusion, and other causes include intrathoracic neoplasm, bleeding diathesis, rupture due to pulmonary embolism, iatrogenic interventions, or tuberculosis.^[1] Unfortunately, as many as 15–20% cases of all pleural effusion remain undiagnosed despite intensive efforts.^[2] An unusual and over-looked cause of pleural effusion is an intra-abdominal entity, e.g., pancreatitis.^[3] We report a rare case of massive left sided pleural effusion (hemothorax) in a patient due to pancreatic pathology.

CASE REPORT

A 50-year-old male, farmer by occupation, presented with chief complaints of left side chest pain, cough with mild expectorate, and abdominal pain since 5 months. Chest pain was initially sharp in character, increased with deep inspiration, non-radiating in nature with no relation to meals.

Pain in abdomen was intermittent, dull aching, non-radiating, and not associated with posture or meals. Past history was not significant. The patient was alcohol drinker (100 ml [approximate], at least thrice a month since 15 years with higher intake on social occasions) and chronic smoker. Laboratory investigations are shown in Table 1; Montoux was negative. Chest X-ray showed left sided pleural effusion [Figure 1]. Ultrasound abdomen revealed - a cystic lesion of size 10.5 cm by 7 cm in relation to tail of pancreas (pseudo-pancreatic cyst) while liver, gall bladder, spleen, and kidneys were within the normal limits. Pleural fluid was hemorrhagic in nature and negative for acid fast bacilli. Pleural fluid cytology showed lymphocytes, neutrophils, numerous foamy macrophages, mesothelial cells, and few degenerated cells. Contrast-enhanced computed tomography (chest and abdomen) revealed a large cystic lesion involving tail of the pancreas. It extended beyond the confines of the pancreas over the left kidney, spleen, and left hemi-diaphragm into left pleural space. Massive left side pleural effusion was seen with collapse consolidation of underlying lung. No mediastinal lymphadenopathy was visible and

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right lung field appeared normal. The investigations led to the conclusion of pseudo-pancreatic cyst rupture into pleural space [Figure 2]. Magnetic resonance cholangiopancreatography (MRCP) was carried out for further confirmation [Figure 3]. Intercostals drainage [Figure 4] was done on left side in order to drain hemorrhagic fluid and patient was started on injection octreotide 100 µg s/c thrice a day for decreasing pancreatic secretions along with broad spectrum antibiotics. He was managed

conservatively for 4 weeks with clinical improvement of chest condition and then taken up for surgery for drainage of cyst.

DISCUSSION

Hemothorax rarely occurs as a sole manifestation of pancreatitis.^[1-6] Most cases of hemorrhagic pleural effusion secondary to pancreatitis occur between the ages of 20 and 55, along with a risk factor of alcohol intake.^[4,5] The postulated pathogenic mechanisms for hemorrhagic effusions include trans-diaphragmatic transfer of fluid via lymphatics, diaphragmatic perforation of the pseudocyst and mediastinal extension.^[1] Several studies demonstrated that a fistula connecting a pancreatic pseudocyst with pleural cavity was the plausible mechanism of pleural effusion.^[6,7] A pancreaticopleural fistula is a rare complication of pancreatitis with reported incidence of only 0.4–4.5%.^[8] The cyst fistulizing and bleeding

Table 1: Laboratory investigations

Hemogram	Hemoglobin=7.5 g; TLC=9000; DLC=70/26/2/2
Pleural fluid examination	Hemorrhagic in nature and negative for AFB; protein=4.9 g; amylase=2624 U/L; lipase ≥20,000 U/L; LDH ≥20,000 U/L; ADA=20 U/L
Pancreatic cancer marker	Cancer associated antigen (CA-19.9=361.5 U/mL; CA-72.4=54 U/mL; CA-125=35.7 U/mL); CEA=30.4 ng/mL
Serum amylase	2500 U/L

TLC: Total leukocyte count, DLC: Differential leukocyte count, AFB: Acid fast bacilli, LDH: Lactase dehydrogenase, ADA: Adenosine deaminase, CEA: Carcinoembryonic antigen, CA: Cancer antigen

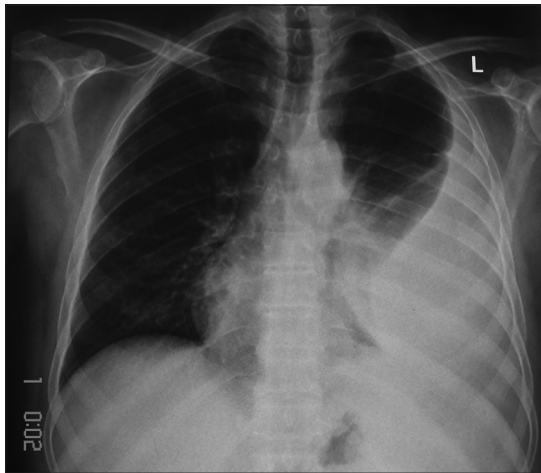


Figure 1: Chest X-ray showed left sided pleural effusion

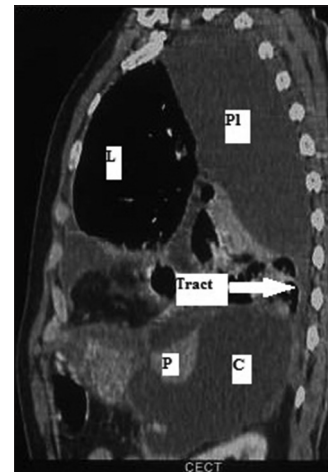


Figure 2: Contrast-enhanced computed tomography (chest and abdomen) revealed cyst in the tail of pancreas and tract (L: Lung, PI: Pleura, P: Pancreas, C: Cyst)

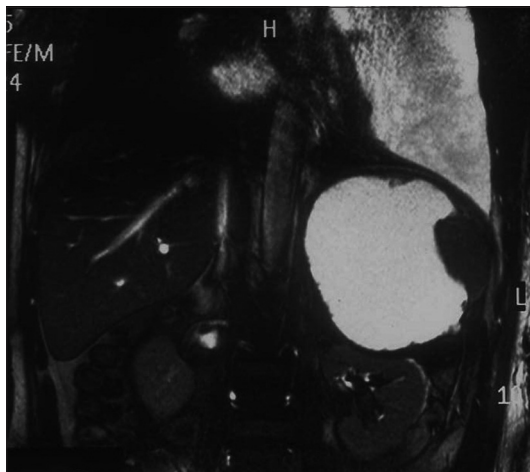


Figure 3: Magnetic resonance cholangiopancreatography image

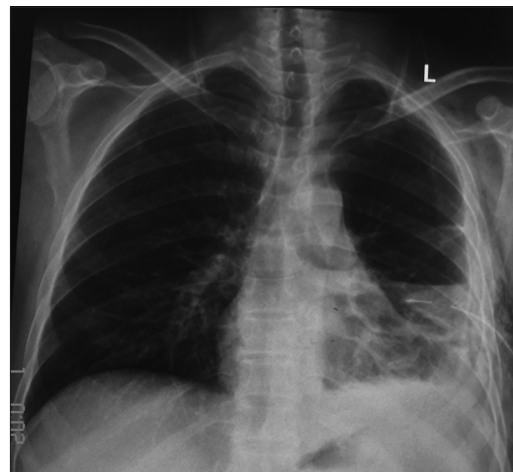


Figure 4: Chest X-ray after inter-costal drainage

massively to cause hemothorax have been very rarely reported.

In our case, the patient presented with massive hemothorax on left side secondary to accidentally detected pseudocyst pancreas with very high amylase content in pleural fluid (normal range <150 IU/L). Pleural effusions due to pancreatic diseases are mostly reactive with slightly elevated amylase levels. In most cases, the pleural effusion occurs concomitantly with signs and symptoms of pancreatitis but may occur even after the acute abdominal symptoms have subsided. Considerable diagnostic problems may be encountered in cases in which the clinical picture is dominated by pleuropulmonary symptoms, and the pancreatic condition remains completely or partly hidden in the background.^[9] The other causes of hemorrhagic effusions with an increased amylase include traumatic esophageal rupture, intrathoracic, and other neoplasm's.

Visualization of a pancreaticopleural fistula can be achieved using computed tomography, but overall sensitivity appears to be poor.^[10] MRCP is the investigation of choice nowadays because of its noninvasive nature over endoscopic retrograde cholangiopancreatography and its ability to visualize beyond strictures.^[11] Moreover, in chronic pancreatitis, it can depict parenchymal atrophy, ductal anatomy and small intrapancreatic or extrapancreatic pseudocysts, peripancreatic collections or pancreaticopleural fistula, if any. The mainstay of medical treatment include conservative management, that is, total parenteral nutrition, thoracocentesis and somatostatin, or analog; nearly 50% of patients managed this way respond to treatment.^[12] In cases of failure, some authors advise pancreatic ductal stenting as the next line of management while cases of recurrence and failure are potential candidates for surgical interventions. Surgical procedures include pancreatic resection and drainage of the pseudocyst with or without enteropancreatic anastomosis.^[8] Three different approaches for pancreatic pseudocysts drainage are available: Endoscopic (transpapillary or transmural), percutaneous catheter drainage, or open surgery. Until date, no controlled prospective studies have compared

directly these approaches. About 80–95% have a satisfactory outcome from surgical intervention with reported mortality rate of 3%.^[13] To conclude, lack of clinical suspicion along with inadequate investigative support could result in delay in diagnosis, sub-optimum management including poor prognosis.

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Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Raghu MB, Balasubramanian S, Balasubramanyam G. Hemorrhagic pleural effusion – Sole manifestation of pancreatitis. *Indian J Pediatr* 1992;59:767-9.
2. Hirsch A, Ruffie P, Nebut M, Bignon J, Chrétien J. Pleural effusion: Laboratory tests in 300 cases. *Thorax* 1979;34:106-12.
3. Kaye MD. Pleuropulmonary complications of pancreatitis. *Thorax* 1968;23:297-306.
4. Ramsdell CM, Muslow I. Recurrent hemorrhagic pleural effusion associated with relapsing pancreatitis. *South Med J* 1973;66:1016-8.
5. Siwczynski H. Chronic pleural effusion from the pancreas. *Wiad Lek* 1998;51:190-5.
6. Imai Y, Taniguchi M, Tagawa K, Toda N, Tanzawa Y, Okamoto M, *et al.* A case of chronic pancreatitis complicated by massive pericardial and right pleural effusion. *Gastroenterol Jpn* 1993;28:734-8.
7. Dewan NA, Kinney WW, O'Donohue WJ Jr. Chronic massive pancreatic pleural effusion. *Chest* 1984;85:497-501.
8. Dhebri AR, Ferran N. Nonsurgical management of pancreaticopleural fistula. *JOP* 2005;6:152-61.
9. Svane S. Recurrent, hemorrhagic pleural effusion and eosinophilia accompanying pancreatitis. *Acta Chir Scand* 1966;131:352-6.
10. Megibow AJ, Lavelle MT, Rofsky NM. MR imaging of the pancreas. *Surg Clin North Am* 2001;81:307-20, ix-x.
11. Materne R, Vranckx P, Pauls C, Coche EE, Deprez P, Van Beers BE. Pancreaticopleural fistula: Diagnosis with magnetic resonance pancreatography. *Chest* 2000;117:912-4.
12. Rockey DC, Cello JP. Pancreaticopleural fistula. Report of 7 patients and review of the literature. *Medicine (Baltimore)* 1990;69:332-44.
13. Martin FM, Rossi RL, Munson JL, ReMine SG, Braasch JW. Management of pancreatic fistulas. *Arch Surg* 1989;124:571-3.