



Chronic Pancreatitis with Unilateral Pleural Effusion: An Atypical Presentation

Tek Tarafli Plevral Efüzyonlu Kronik Pankreatit: Atipik Bir Sunum

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ABSTRACT

Pancreaticopleural fistula is a rare complication of acute or chronic pancreatitis. The most prevalent reasons for chest discomfort in this patient were pleural effusion, mediastinal or pleural pseudocyst. A 42-year-old man presented with left pleuritic chest pain and cough. A plain chest X-ray revealed two large suspicious opacities in the left lung. A contrast-enhanced computed tomography thorax and pancreas shows left pleural effusion and features suggestive of chronic pancreatitis. There was peripancreatic collection and pancreatic duct dilatation which communicated with the left pleura, causing left pleural effusion. Pleural fluid samples showed high pleural fluid amylase and albumin. Endoscopic retrograde cholangiopancreatography (ERCP) was done and the pancreatic duct was stented. Repeated ERCP a month later showed no leakage after stent insertion.

Keywords: Pancreaticopleural fistula, pleural effusion, chronic pancreatitis

INTRODUCTION

Pleural effusion due to a pancreaticopleural fistula is a very rare occurrence, accounting for fewer than 1% of all occurrences (1). It occurs in 3-7% of patients with pancreatitis (2). More uncommon than pancreatic ascites is pancreaticopleural fistula. It may manifest as a massive recurrent pleural effusion.

CASE REPORT

A 42-year-old man presented with left pleuritic chest pain and cough. A plain chest X-ray revealed two large suspicious opacities

ÖZ

Pankreatikoplevral fistül akut veya kronik pankreatitin nadir bir komplikasyonudur. Bu hastada göğüs rahatsızlığının en sık görülen nedenleri plevral efüzyon, mediastinal veya plevral psödokist idi. Kırk iki yaşında erkek hasta sol plöretik göğüs ağrısı ve öksürük şikayetiyle başvurdu. Düz göğüs röntgeninde sol akciğerde iki adet büyük şüpheli opaklık görüldü. Kontrastlı bilgisayarlı toraks ve pankreas tomografisinde sol plevral efüzyon ve kronik pankreatiti düşündürülen özellikler görülmektedir. Peripancreatik kolleksiyon ve sol plevra ile iletişim kuran pankreas kanalında dilatasyon mevcuttu ve sol plevral efüzyona neden oldu. Plevral sıvı örneklerinde yüksek plevra sıvısı amilazı ve albumini saptandı. Endoskopik retrograd kolanjiyopankreatografi (ERCP) yapıldı ve pankreas kanalına stent takıldı. Bir ay sonra tekrarlanan ERCP'de stent takılmasından sonra herhangi bir sızıntı görülmüdü.

Anahtar Sözcükler: Pankreatikoplevral fistül, plevral efüzyon, kronik pankreatit

in the left lung. A contrast-enhanced computed tomography (CT) thorax and pancreas shows left pleural effusion and features suggestive of chronic pancreatitis. There was peripancreatic collection and pancreatic duct dilatation that communicated with the left pleura, causing left pleural effusion. Pleural fluid samples showed high pleural fluid amylase and albumin. Endoscopic retrograde cholangiopancreatography (ERCP) was done, pancreatic duct leak likely at the body/tail junction with a stricture at the head of the pancreas. The pancreatic duct was stented. Repeated ERCP a month later showed no leakage after stent insertion. Sputum acid-

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fast bacillus were negative, and blood culture revealed no growth. Tumor markers were negative.

The patient was then well enough to be discharged home with antibiotics and analgesics. During the patient's recent follow-up,

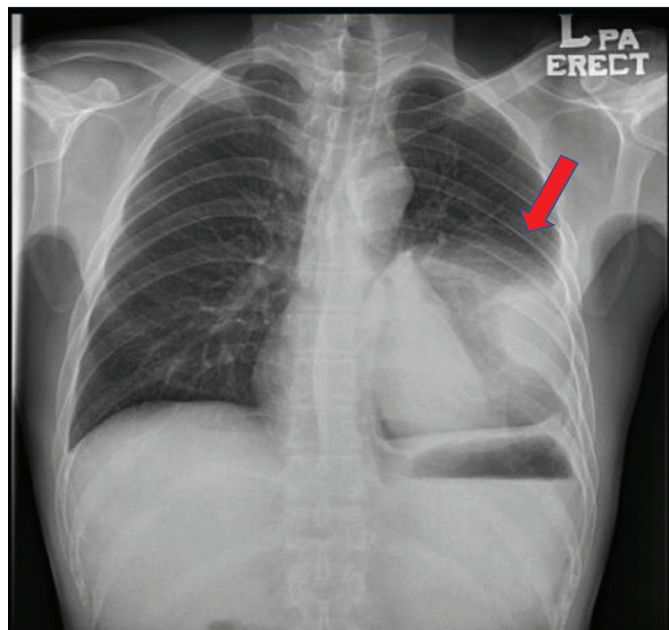


Figure 1. Left lung masses suspicious of extrapulmonary lesions with meniscal sign were noted on the arrival chest X-ray.

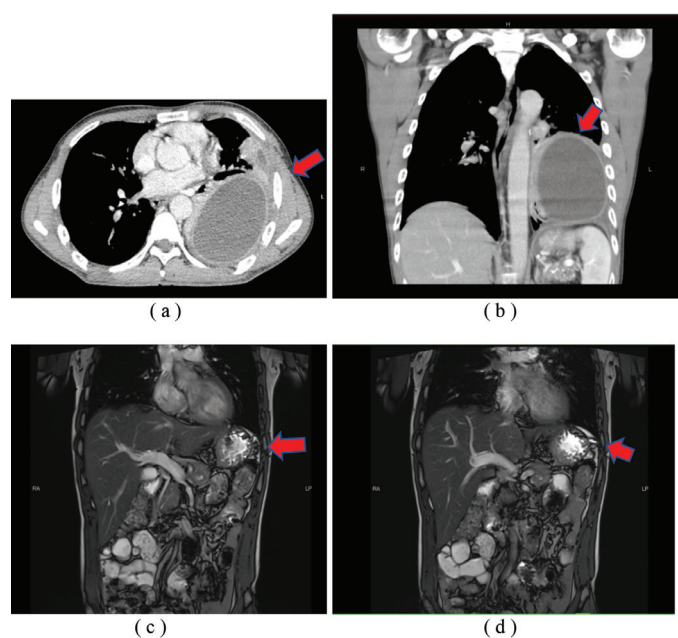


Figure 2. (a, b) are the contrast enhanced CT thorax showing large peripheral rim enhancement of fluid density in the left lower lobe pleural cavity, which extends anteriorly into the inferior lingula region with split pleural sign, which is suggestive of left lung empyema. (c, d) are MRCP suggestive of chronic pancreatitis, pancreatic tail thickening with filling defect seen within the pancreatic duct at the distal part of the body.

CT: Computed tomography, MRCP: Magnetic resonance cholangiopancreatography.

ERCP was done and no contrast leak was observed with the previous stent *in situ*. Informed consent was obtained.

DISCUSSION

Pleural effusion is one of the rare complications of both acute and chronic pancreatitis. This condition can be caused by trans-diaphragm lymphatic blockage or pancreaticopleural fistula due to a leak and disruption of the pancreatic duct or pseudocyst. Pancreaticopleural fistulas can be formed if the disruption of the duct occurs posteriorly to the retroperitoneum region. The pancreatic enzyme can migrate superiorly to the mediastinum, causing rupture into the pleural cavity, and the formation of a connection (3). Chest symptoms caused by pleural effusion are often misleading. Abdominal symptoms like epigastric pain, may be absent (4).

Pancreaticopleural fistula is an uncommon consequence of chronic alcoholic pancreatitis, with an annual prevalence of 0.4-4.5 per cent in alcoholic patients (5). The serum amylase level is usually slightly raised, as in this patient, likely due to amylase reabsorption from the pleural surface and may indicate a pancreaticopleural fistula.

The first line of investigation is a chest X-ray. However, it only provides limited information. In this case, the abnormal finding of two heterogeneous lung masses were identified in the chest X-ray that raised the suspicion of malignancy and empyema.

The gold standard investigation for pleural effusion investigation is CT thorax. It provides accurate delineation of the fistula, if present, as well as useful information on the location and extent of the pleural effusion (6,7). This patient's CT contrasted thorax only reported as a left empyema with no fistula detected.

To diagnose pancreaticopleural fistula, CT or magnetic resonance cholangiopancreatography (MRCP) may be useful in certain situations. In 80% of the cases, ERCP leads to diagnosis, and in 59-74% of the cases, it reveals the fistulous tract (6,8,9). However, visualization of the fistulous tract is not always possible (8). In individuals with a more distal source of ductal disruption than the location of ductal obstruction, ERCP may not be able to detect a fistula.

In this patient, pancreatic duct leak was likely at the body/tail junction with a stricture at the head of the pancreas, and stenting was performed. However, no fistulous tract was found during the ERCP. This finding might be due to distal pancreatic ductal disruption. Subsequent MRCPs suggestive of chronic pancreatitis and strictures were found in the distal and proximal main pancreatic ducts. We were unable to diagnose pancreaticopleural fistula through MRCP. Post ERCP and stenting, the patient improved drastically and was discharged well.

When considering the clinical presentation of left pleural effusion with increased pleural fluid amylase, chronic pancreatitis, and pancreatic duct leak at the body/tail junction during ERCP with effective treatment response, it is highly suggestive of a pancreaticopleural fistula.

The use of early pleural fluid amylase testing can help to avoid a delay in diagnosis. Pleural effusion drainage, pancreatic secretion inhibition with medications, and possibly ERCP combined pancreatic duct stenting are the initial treatment.

Ethics

Informed Consent: It was obtained.

Authorship Contributions

Concept: Y.Y.C., L.Z.Z., Design: L.Z.Z., Data Collection or Processing: I.B.R., Analysis or Interpretation: Y.Y.C., Literature Search: I.B.R., Writing: I.B.R., Y.Y.C.

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