



Trapped lung from Pancreaticopleural Fistula – a rare complication of acute pancreatitis

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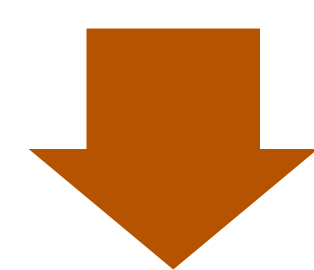
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Introduction

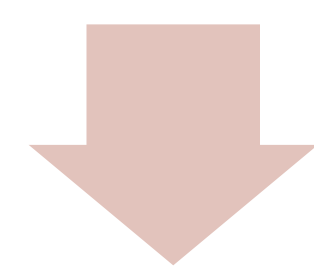
- Pancreaticopleural fistula (PPF) is a rare complication which occurs in approximately 0.4% of patients after pancreatitis
- Pancreatic fluid can fistulize through the esophageal or aortic hiatus or directly through the diaphragm resulting in a unilateral or bilateral pleural effusion
- Management of PPF is based on clinical manifestations

Case Description

A 46-year-old woman presented to the emergency department three weeks after hospitalization for gallstone pancreatitis with severe abdominal pain and shortness of breath.



Physical exam was pertinent for tachycardia, diminished breath sounds over the left lung, and epigastric tenderness.



Labs revealed normal lipase of 55 and elevated serum amylase to 238.

Diagnostics

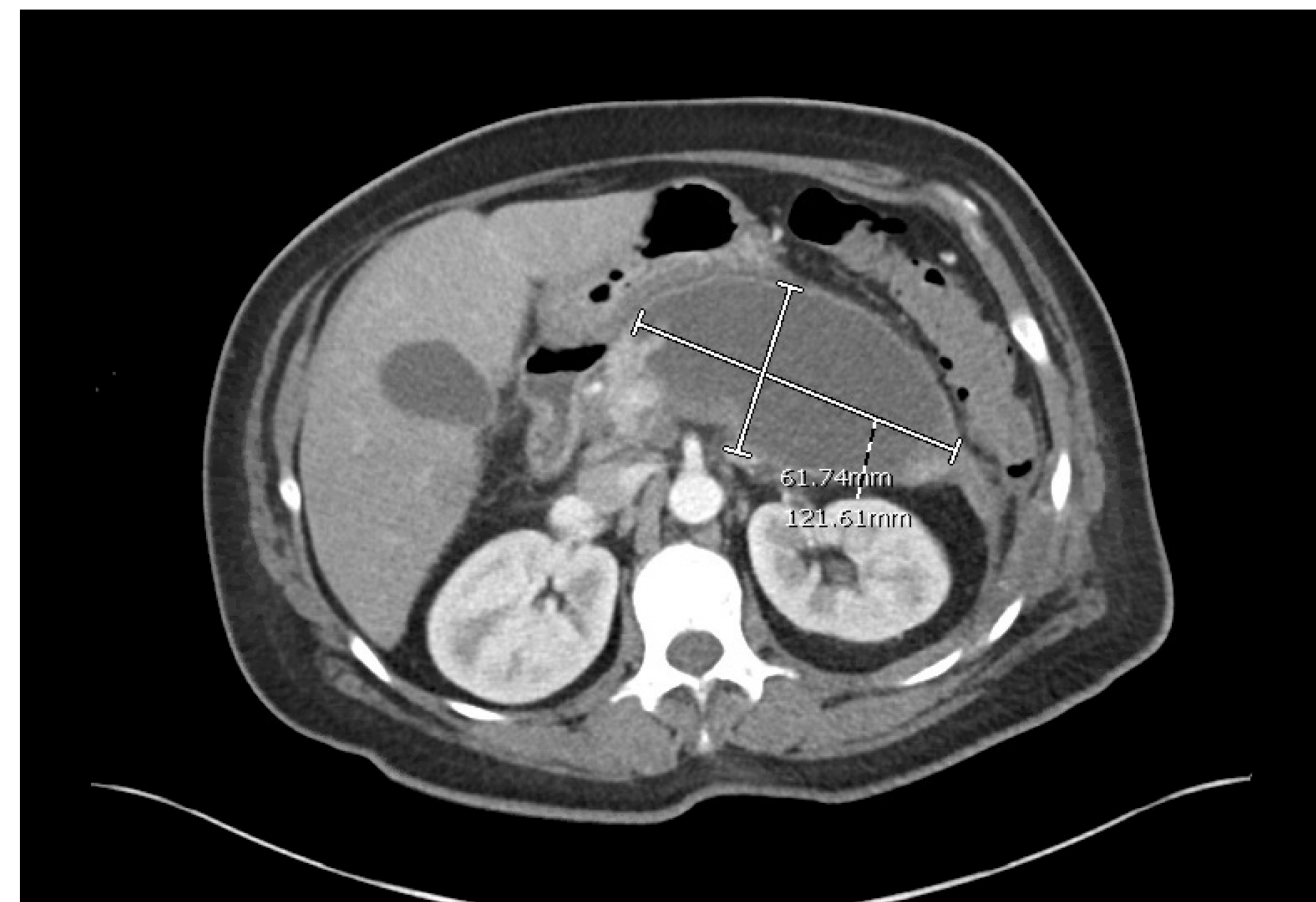


Figure 1: CT Abdomen and Pelvis w/ Contrast showing a collection replacing the majority of the pancreatic body

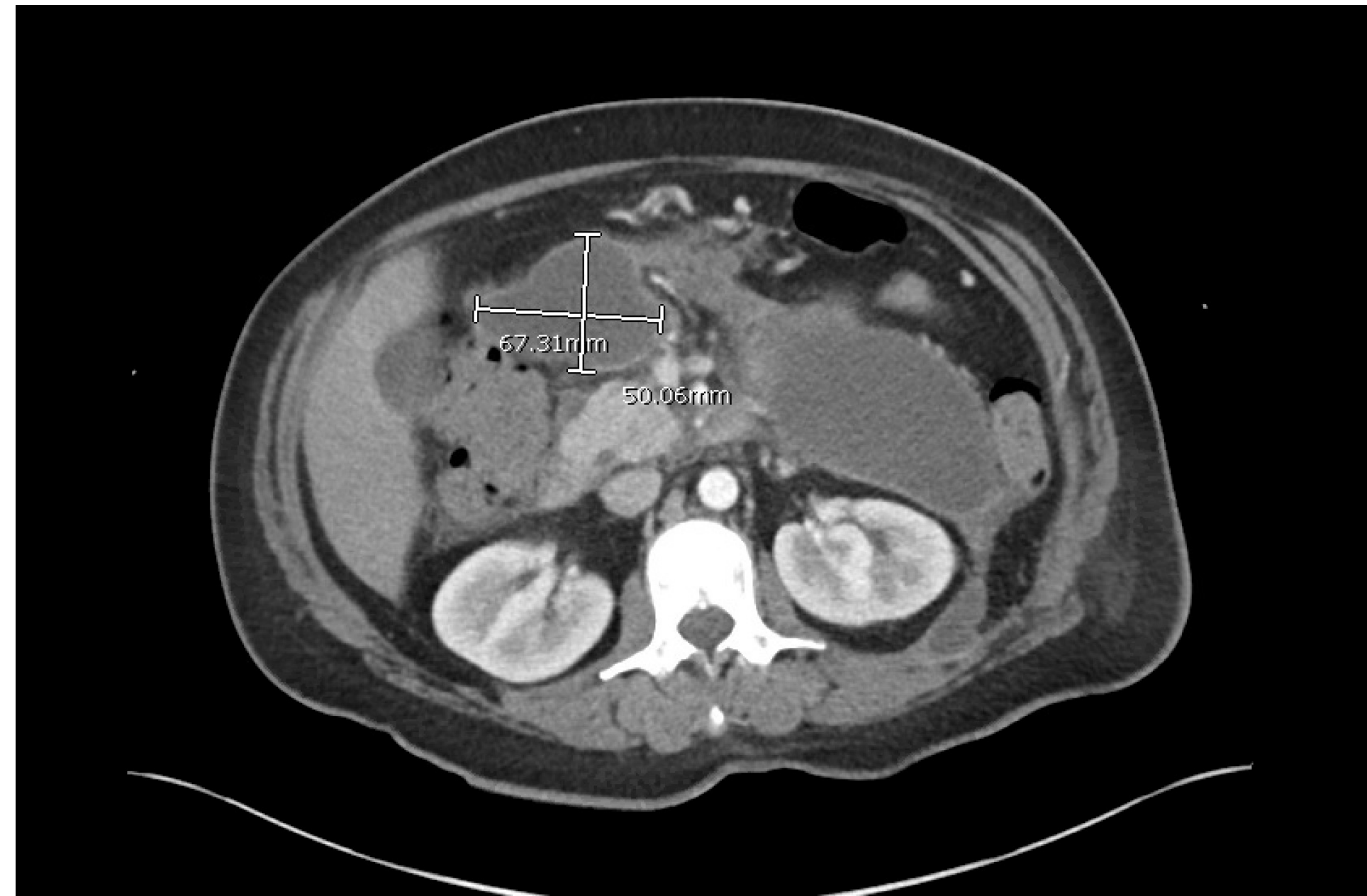


Figure 2: CT Abdomen and Pelvis w/ Contrast showing an intraperitoneal collection anterior to the pancreatic head



Figure 3: CT Abdomen and Pelvis w/ Contrast showing a large mildly loculated left pleural effusion with associated atelectasis

Discussion

- PPF is a rare complication of pancreatitis diagnosed by high amylase in the pleural fluid
- PPF has traditionally been treated by transpapillary drainage of the pancreatic duct with pancreatic duct stents and therapeutic thoracentesis
- In this case, thoracentesis with chest tube drainage was not successful in lung reexpansion, presumably due to trapped lung from pleural fibrosis
- Cystgastrostomy with lumen apposing metal stents (LAMS) had already been performed to prevent any reaccumulation of fluid

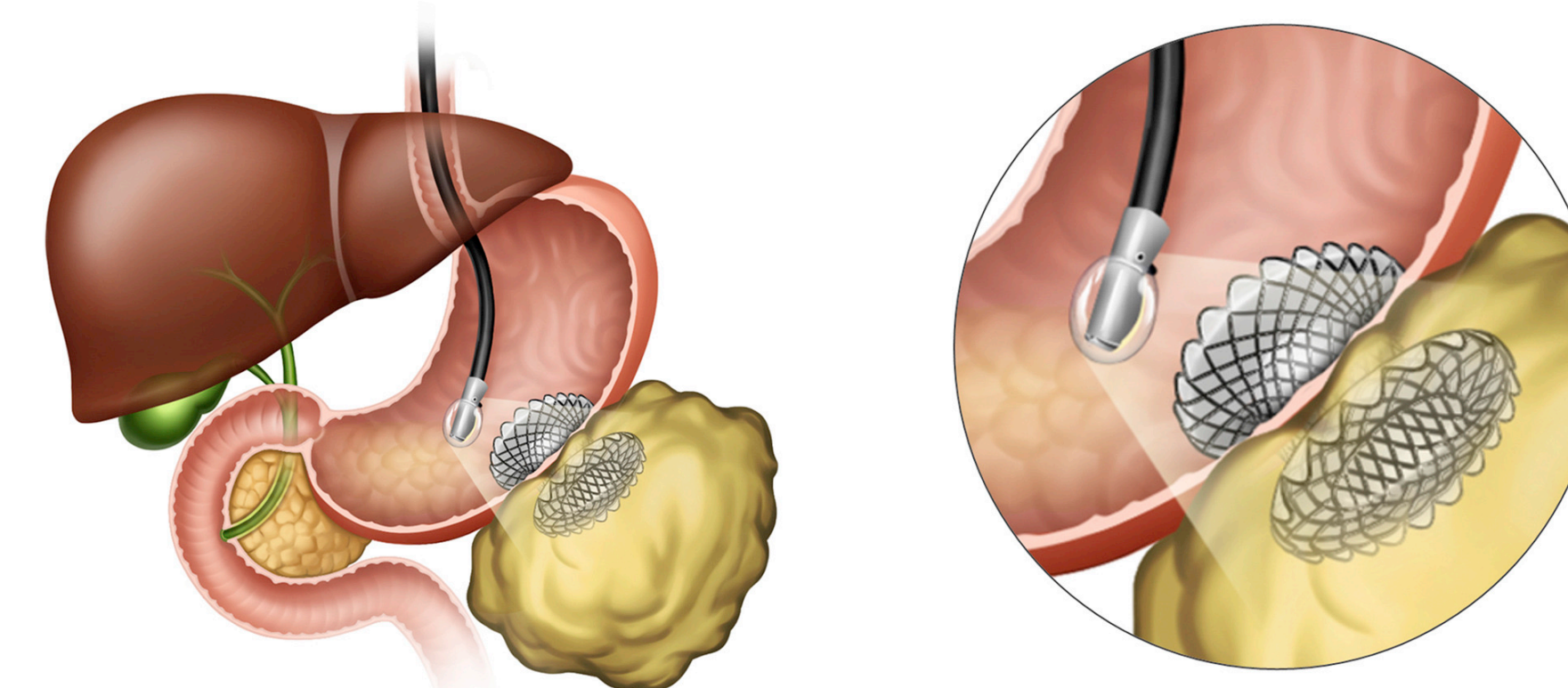


Figure 4: Lumen apposing metal stent

- **The next step is usually surgical decortication, but we then took a novel approach of co-administering ribonuclease and protease into the pleural space**
- This approach allowed resolution of the PPF while avoiding operative procedures

Teaching Points

Diagnosis of PPF requires a high degree of clinical suspicion, particularly in the setting of pleural effusion with coexisting history of pancreatitis.

Given the success of co-administration of ribonuclease and protease in the pleural space in the setting of trapped lung following PPF, we recommend considering the use of this strategy in clinically appropriate situations.

Follow-Up

After repeat necrosectomy and removal of LAMS, there was no recurrence of pleural effusion or pancreatitis after 6 month follow-up.

References

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