Clinical History:

A 23-year-old female without alcohol abuse history complained of chest pain and dyspnea. Chest radiograph revealed a huge lesion in the left hemithorax. Four liters of straw-yellow colour fluid were evacuated immediately and 2 additional liters one week later. The fluid had pH 7.33, glucose 180mg/dL, protein 3.3g/dL, amylase 342IU/L.

Imaging Findings:

Chest radiograph showed a giant opacity that extended to the whole left lung field, with contralateral shift of mediastinal structures and inferior displacement of the gastric bubble (Fig. 1).

The contrast enhanced CT examination revealed a giant lesion located between the left lung and the diaphragm (Fig. 2). It was predominantly cystic (mean CT attenuation value of 12 Hounsfield unit), well-circumscribed, demonstrating slightly thickened septa. A soft-tissue elongated structure was noted in the anterolateral wall of the previously mentioned cystic mass, with a mean CT attenuation value of 92 HU in the CECT. Most of the left lung was compressed by the mass. Paraaortic and pericardial lymphnodes were observed, as well as a small amount of pleural and pericardial effusion.

Chest MRI revealed a predominantly thoracic cystic lesion with slightly thickened septa and confirmed the presence of the soft-tissue elongated structure seen in the anterolateral wall of the cystic mass (Fig. 3).

Discussion:

Most pancreatic cystic lesions in the thorax originate in the abdomen, with continuity of anatomical and vascular structures of normal pancreas. In the case of pancreatic pseudocyst on ectopic thoracic pancreas, there is no connection. The pancreas is located anomalously since the embryonic development. Its histogenesis is unclear. There are currently two main theories to explain this phenomenon. The first one supports that cell differentiation in the ventral primary foregut may fail, resulting in pancreatic cells. The second theory argues for an abnormal migration of cells from the pancreatic bud [1]. Whatever the case may be, an ectopic pancreatic cystic lesion in the thorax is extremely rare.

Symptomatic thoracic pseudocysts can present with dysphagia, dyspnea, airway obstruction, cough, chest pain,
fever and/or cardiac tamponade [2-5].

CT and MRI are useful imaging techniques characterizing the extent and the topographic relations of the entity for surgical planning. Both techniques show an intrathoracic giant lesion with cystic loculations, with a small soft-tissue structure [2-5]. This cystic enlargement may be due to the absence of a natural way of drainage of secretions [5].

Due to the lack of pathognomonic imaging findings and the rarity of the entity, our patient was diagnosed after surgery, because the diagnosis of a thoracic ectopic pancreas depends mainly on its histologic appearance. Histological analysis of the surgical specimen in the presented case demonstrated the presence of ectopic pancreatic tissue in the thorax.

Differential diagnosis should include thoracic cystic lesions and tumors with cystic components such as mature cystic teratoma, dermoid cyst, lymphangioma, cystic degeneration of tumors or another congenital mediastinal cyst.

The presence of amylase in the aspirated fluid favors the diagnosis of a pancreatic lesion, regardless of its aggressiveness. To our knowledge, there have been no reports of malignant transformation of ectopic pancreatic cells in the thorax.

Surgery is an effective method to treat the symptomatic ectopic pancreas.

More studies are warranted in order to establish the imaging findings and characteristics of complications of thoracic ectopic pancreas, however if a young patient is found to have large cystic mass in the thorax without any specific symptoms or underlying known history of pancreatic disease, ectopic pancreas should be included in the differential diagnosis.

**Differential Diagnosis List:** Ectopic Giant Pancreatic Cyst in the Thorax, Mature cystic teratoma, Dermoid cyst, Lymphangioma, Cystic degeneration of tumors, Other congenital mediastinal cyst

**Final Diagnosis:** Ectopic Giant Pancreatic Cyst in the Thorax

**References:**


Description: Chest radiograph shows a giant opacity extending to the whole left lung field, with contralateral shift of mediastinal structures and inferior displacement of the gastric bubble. **Origin:** Department of Radiology, Hospital Infanta-Cristina, Radiodiagnostico, Badajoz, Spain
Description: Axial contrast-enhanced CT reveals a predominantly cystic lesion (C) occupying the whole left hemithorax with significant shift of the mediastinum to the right. A soft-tissue elongated structure is seen in its anterolateral wall (arrow). Origin: Department of Radiology, Infanta-cristina Hospital, Badajoz, Spain
Description: Coronal view. Origin: Department of Radiology, Infanta-cristina Hospital, Badajoz, Spain
Description: Coronal view of contrast-enhanced abdominal CT. Note the inferior displacement of gastric bubble (G), pancreas (P), liver (L) and spleen (S). Pancreas is normal. Origin: Department of Radiology, Infanta-cristina Hospital, Badajoz, Spain
Description: Axial T1W MRI shows a thoracic cystic lesion with a solid component (arrow). Origin: Department of Radiology, Infanta-cristina Hospital, Badajoz, Spain
Description: Axial T1W MRI of the upper abdomen shows no abnormalities. Origin: Department of Radiology, Infanta-cristina Hospital, Badajoz, Spain
**Description:** The axial T2W image at the level of mid thorax shows the cystic (C) and solid (arrow) components of the lesion. **Origin:** Department of Radiology, Infanta-cristina Hospital, Badajoz, Spain
Description: Axial T2W image at the level of upper abdomen and pancreas. No abnormalities are detected. Origin: Department of Radiology, Infanta-cristina Hospital, Badajoz, Spain
**Description:** Sagital T1W image of the thorax and upper abdomen shows the giant cystic mass in the left hemithorax displacing the diaphragm and subdiaphragmatic organs inferiorly. **Origin:** Department of Radiology, Infanta-cristina Hospital, Badajoz, Spain