

Pancreatic Metastasis of lung Cancer: A Case Report

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Abstract

Case Report

Pancreatic metastases from lung cancer are uncommon, usually asymptomatic, and tends to indicate a poor outcome. We report a new case of symptomatic pancreatic metastasis from an adenocarcinoma of the lung. **Case Presentation:** A 60-year-old male presented with middle upper abdominal pain. Computed tomography (CT) scan showed acute pancreatitis features and identified pulmonary nodules, further investigations established the diagnosis of stage IV lung adenocarcinoma with pancreas, bone and lymph nodes metastases. During the follow-up, the patient presented with obstructive jaundice and was managed with biliary stent placement. **Conclusion:** Pancreatic metastasis of lung cancer is infrequent. Symptomatic cases are rare; the patients usually present at an advanced stage with widespread disease, making early diagnosis difficult, and in most cases, patients are managed with palliative therapy.

Keywords: Lung cancer, Adenocarcinoma, Pancreatic metastasis.

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INTRODUCTION

Lung cancer is the second most common cancer in men and women (after prostate and breast cancer, respectively) [1]. It is generally diagnosed in adult around 70 years old and occurs more frequently in males [1]. Lung cancer is metastatic at diagnosis in approximately 50 % of cases [2]. The usual metastases sites are the nervous system, bone, liver, respiratory system, and adrenal gland [3]. Pancreatic metastases are rare. We present a case of pancreatic metastasis in a lung adenocarcinoma.

CASE REPORT

A 60-year-old male, with a medical history of chronic obstructive pulmonary disease caused by smoking, was admitted to the emergency room for acute abdominal pain in the epigastric region, persisting for 48 hours. Physical examination found tenderness of the epigastrium.

Serum lipase was more than 3 times the upper limit of normal and C-reactive protein (CRP) value was elevated. Abdominal CT-scan showed a Balthazar grade C pancreatitis with an enlarged pancreas and inflammatory changes in the peripancreatic fat. It also identified left lung micronodules.

Investigations showed positive CMV-IgM and cytomegalovirus viremia. The patient was presumably diagnosed with CMV induced acute pancreatitis.

A thoraco-abdominal-pelvic CT scan was performed and detected a mass in the apex of the right lung, mediastinal adenopathy, metastatic lesions in the lungs and in the bone (the first right rib), and inflammatory changes in the pancreas and peripancreatic fat. Further investigations were conducted (bronchial fibroscopy, mediastinoscopy, brain imaging ...).

Positron emission tomography (PET-scan) identified pulmonary masses, hypermetabolic pancreatic head mass, costal lysis, soft tissue involvement, and multiple hypermetabolic lymph node.

Histopathological findings confirmed the diagnosis. The patient was diagnosed with metastatic lung adenocarcinoma TTF1 positive, expressing PDL1 at 50%, and classified as stage IV non-small cell lung cancer (NSCLC). The patient was prescribed Cisplatin-Alimta-Pembrolizumab based chemotherapy.

During the follow-up, the patient was admitted to the emergency room for obstructive jaundice. Examination identified right upper quadrant tenderness.

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Laboratory tests revealed increased CRP levels, cytolysis, and cholestasis.

A subsequent CT-scan revealed dilatation of the main bile duct (CBD) and the intrahepatic bile ducts, and a roughly rounded hypodense localized pancreatic cephalic mass, enhanced after injection of contrast medium.

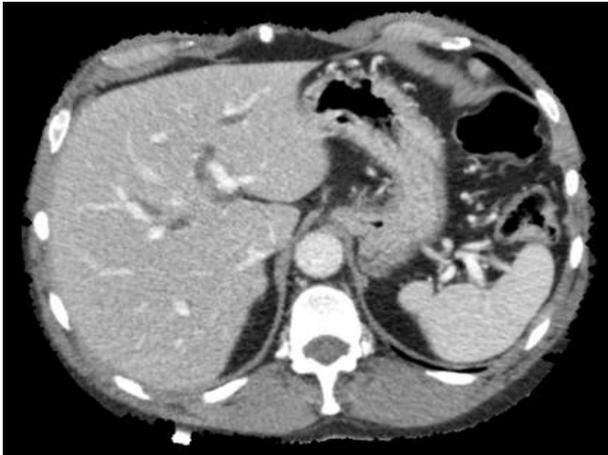


Figure 1: CT scan showing bile duct dilatation

Endoscopic ultrasound (EUS) identified common bile duct obstruction by the pancreatic lesion located in the head measuring 25mm, the MBD was dilated at 16mm, containing biliary sludge.



Figure 3: EUS findings

Endoscopic retrograde cholangiopancreatography (ERCP) was performed. It confirmed the lower CBD stenosis with features of external compression and allowed sludge removal, dilatation of the common bile duct stenosis and endoscopic biliary stent placement.

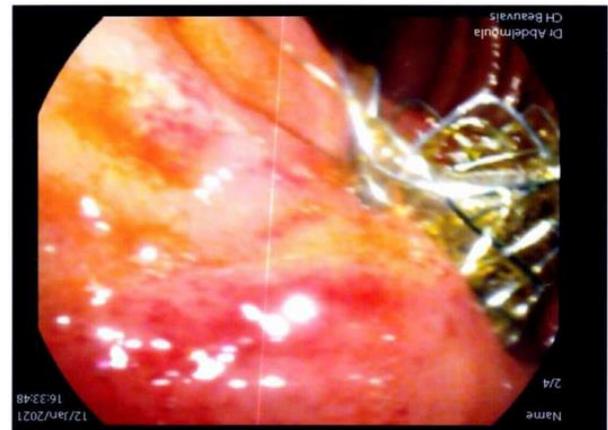


Figure 2: Endoscopic image showing the biliary stent placement

DISCUSSION

The pancreas can be a site of extra-thoracic spread of advanced lung cancer in a small number of patients, representing <5% of patients living with a pancreatic tumor [4].

Pancreatic metastasis of lung cancer occur especially in small cell lung cancer [5]. Pancreatic involvement is less common in adenocarcinomas (2.4%), large cell carcinomas (1.9%), and squamous cell carcinoma (1.1%) [5].

In our case the lung cancer was an adenocarcinoma. Pancreatic metastases are asymptomatic in more than 50% of cases and detected during the follow-up after the primary lesion diagnosis [6]. They rarely become clinically evident [7].

Pancreatic metastases may directly invade the pancreatic duct epithelium and imitate primary pancreatic cancer, and similar to primary pancreatic carcinoma, most symptoms are not specific; including weight loss, asthenia, abdominal or back pain, nausea and jaundice [8]. The most reported symptoms of pancreatic metastasis from lung cancer are obstructive jaundice and acute pancreatitis [9].

In our case, the patient presented initially with acute pancreatitis (presumably CMV induced), then obstructive jaundice.

Imaging may help to differentiate between lung cancer and pancreatic cancer in patients with a pancreatic mass and a history of malignant lung neoplasm [10, 11].

CT scan, PET-scan, EUS identified the pancreatic lesion, in our case. Maeno *et al.*, [5], reported that the typical pattern of pancreatic metastasis involved a solitary nodule (73% of cases), multiple nodules (11.5%) and diffuse swelling (15.4%)

The definitive diagnosis requires pathological examination of tissue samples [12]. Stage IV NSCLC has a poor prognosis [9]. Patients with metastatic disease to the pancreas are usually treated with palliative intent as they present with widespread disease. This involves palliative chemotherapy and/or radiotherapy and other measures to relieve biliary obstruction [9]. Platinum-based chemotherapy is the standard-of-care for most patients with advanced NSCLC [13].

In our case, the patient was treated with chemotherapy, then later had a biliary stent insertion. In other selected cases, when patients have solitary metastasis to the pancreas, pancreatic resection can be considered, with certain patients achieving long-term survival [9, 14, 15].

CONCLUSION

The pancreatic is an infrequent site for lung cancer metastasis. In most cases patients remain asymptomatic, rarely, they present with obstructive jaundice and pancreatitis, generally at an advanced stage with widespread disease, making early diagnosis difficult. Most patients are managed with palliative care; selected patients may benefit from pancreatic resection.

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