

## Pancreatic Metastasis and Obstructive Jaundice in Small Cell Lung Carcinoma

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Primary lung cancer frequently metastasizes to distant organs. The pancreas is a relatively infrequent site of metastasis. Furthermore, obstructive jaundice resulting from pancreatic metastasis is extremely rare. This paper examines the case of a 65-year-old woman with small cell lung cancer initially presenting with extrahepatic biliary obstruction. The patient underwent percutaneous transhepatic biliary drainage. The obstruction was relieved with a stent placement, then the woman was treated with combination chemotherapy (irinotecan, cisplatin) and a complete remission achieved in six months

**Key Words :** Jaundice, Small cell lung carcinoma

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### INTRODUCTION

Metastatic tumors of the pancreas are rarely found clinically, although their incidence has been reported to be approximately 3% among malignant disease autopsies<sup>1)</sup>. Moreover, most metastatic pancreatic tumors are incidentally found during autopsies, the clinical sign of obstructive jaundice due to a metastatic pancreatic tumor is rarely evident<sup>2)</sup>. Primary lung cancer frequently metastasizes to distant organs. The most common intra-abdominal sites of metastasis occur in the adrenal gland and liver. The pancreas is a relatively infrequent site of metastasis. The most common histologic type among lung cancer worldwide (which is related to pancreatic metastasis), is small cell lung carcinoma. But bile duct obstruction as a result of pancreatic metastasis from SCLC is relatively rare<sup>3)</sup>. (2) We examine a case of SCLC initially presenting with jaundice which was relieved stent implantation and chemotherapy.

### CASE REPORT

A 65-yr-old woman was presented with jaundice and weight loss. Hypertension was the only significant past medical history. She also complained about general weakness and malaise. A physical examination revealed a jaundiced woman with good performance. Examination of the cardiorespiratory system was unremarkable. The abdomen was soft, and no evidence of organomegaly. The initial laboratory workup revealed a normal complete blood count and chemistry panel. The hepatic panel revealed alkaline phosphatase levels of 339 U/L (Normal range: 40-120 U/L), AST of 512 U/L (Normal range: 10-36 U/L), ALT of 441 U/L (Normal range: 7-38 U/L), total bilirubin of 9.2 mg/dL (Normal range: 0.2-1.3 mg/dL) and a direct bilirubin of 4.72 mg/dL (Normal range: 0.0-0.35 mg/dL). A chest radiograph showed a mass in the left lower lung field, later confirmed by a tomographic chest scan. Subsequently, a magnetic resonance cholangio-pancreatography of the abdomen was done, which revealed a mass in the head and tail of the pancreas (Figure 1).

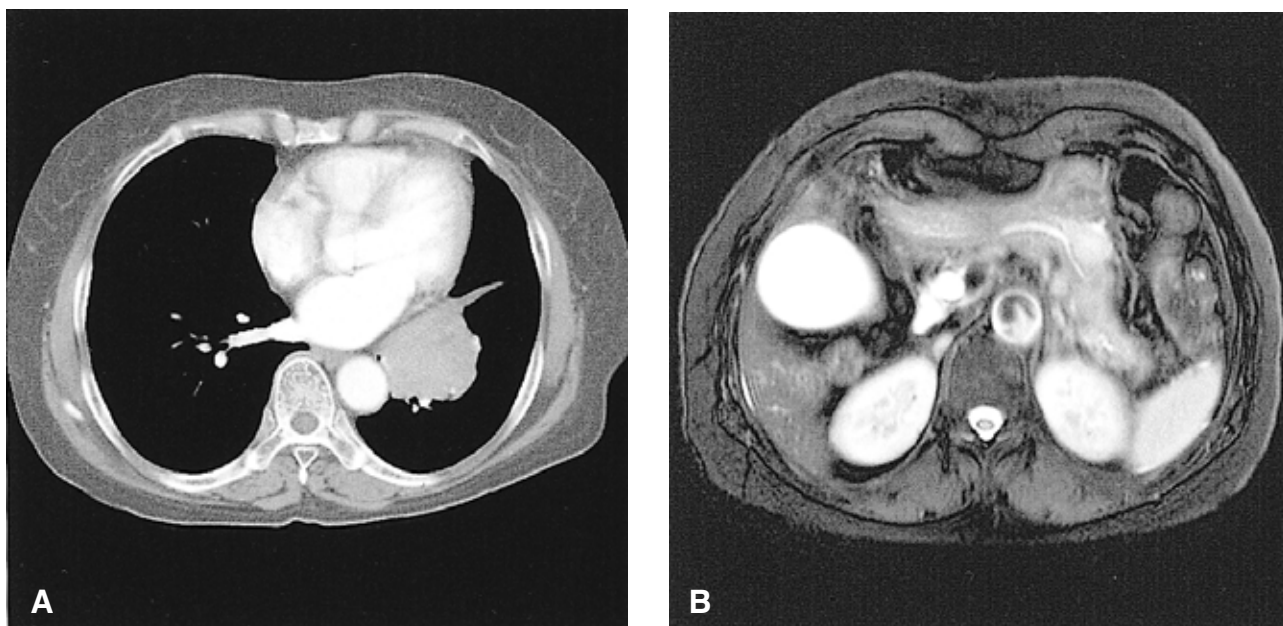
The patient underwent an endoscopic retrograde cholangiopancreatography (ERCP) and endoscopic ultrasound (EUS),

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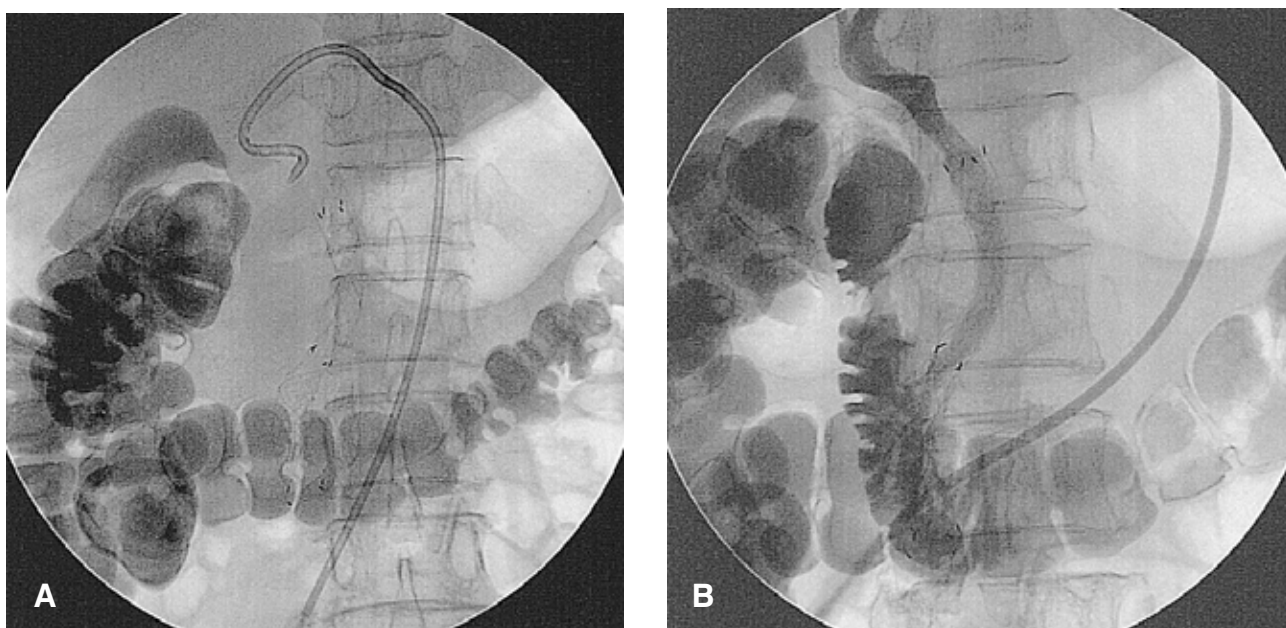
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**Figure 1.** Magnetic resonance imaging of the pancreas showing a masses in the head (A), Computerized tomographic scan of the chest showing a mass in lingular division of left lower lobe (B).

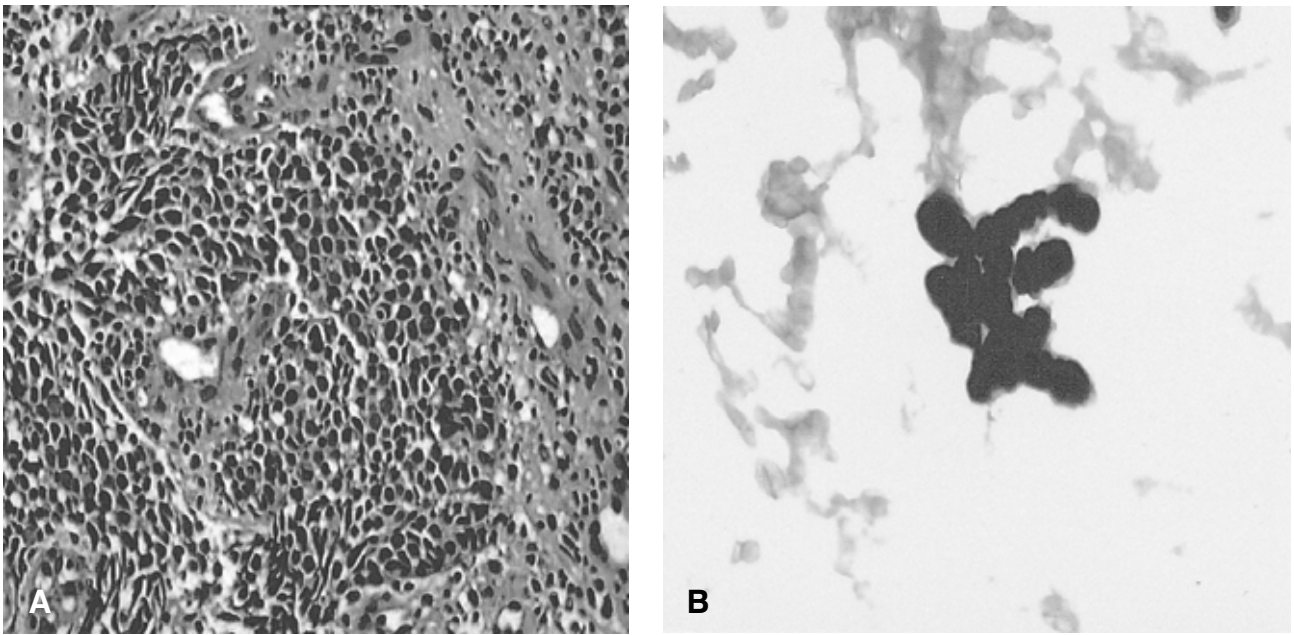


**Figure 2.** Biliary stent implantation was done (A). Excellent contrast passage through biliary stent was seen (B).

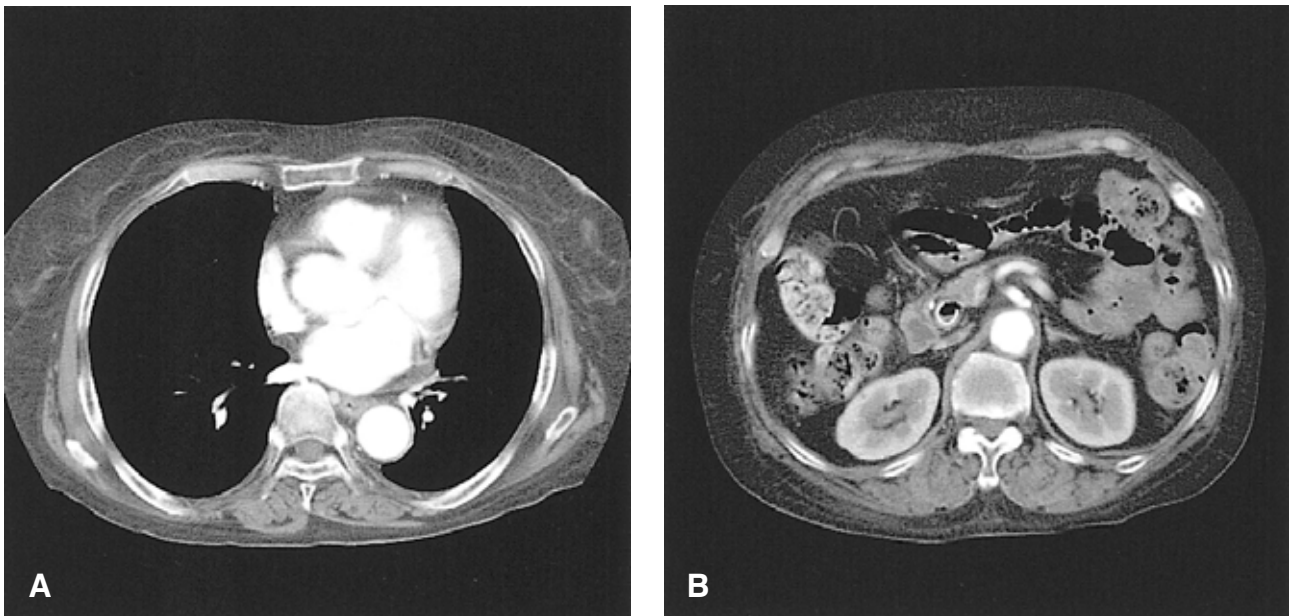
which conformed the presence of a mass in the head of the pancreas, causing an extrahepatic bile duct obstruction. During ERCP, the guidewire couldn't pass over the obstructive lesion, therefore the bile duct obstruction was relieved with a stent placement (Figure 2). The patient underwent an aspiration cytologic exam of the pancreas, which revealed many clusters of small tumor cells. The patient underwent a bronchoscopic

biopsy of the left lower lobe mass which revealed a small cell carcinoma (Figure 3).

Extensive staging workup did not reveal any other metastatic site. The patient was treated with combination chemotherapy (irinotecan, cisplatin) and a complete remission was achieved in six months (Figure 4). There was no recurrence of the disease during follow-up for 11 months, and the patient is doing well.



**Figure 3.** Bronchoscopic lung biopsy specimen showing small neoplastic cells (A). Pancreas aspiration cytology showing many cluster of small neoplastic cells (B).



**Figure 4.** After 6 months irinotecan, cisplatin based chemotherapy, follow up CT scan showing no remnant mass in the lung field (A) and the pancreas (B). Complete remission was achieved.

## DISCUSSION

Primary lung cancer frequently metastasizes to distant organs. The adrenal gland and liver are the most common intra-abdominal sites of metastasis. The pancreas is a relatively infrequent site of metastasis. During one autopsy, carcinoma of the lung metastasized to the pancreas in 14% of patients

examined in the autopsy<sup>4</sup>. The small cell is the most common histologic type in pancreatic metastasis among histologic types of lung cancer.

In 1998, Moeno et al. reported some cases of pancreatic metastasis from lung cancer<sup>3</sup>. But, extrahepatic bile duct obstruction as a result of pancreatic metastasis from lung cancer is relatively rare. As a result, the initial presentation of

jaundice at diagnosis of lung cancer is usually assumed to be the result of diffuse hepatic metastasis, a common finding in lung cancer. There are only several reported cases worldwide in the literature about lung cancer causing extrahepatic bile duct obstruction by pancreatic metastasis<sup>5-7</sup>.

Our case shows that, small cell lung carcinoma may cause extrahepatic bile duct obstruction by metastasizing to the pancreas. Vigorous efforts have been made toward the diagnosis or exclusion of extrahepatic bile duct obstruction as a sole cause or contributory factor in the development of jaundice in patients with primary lung carcinoma. Initially, the evaluation of patients with lung cancer and jaundice, especially small cell lung carcinoma, included an abdominal CT scan or magnetic resonance cholangiopancreatography. Patients found to have a metastatic pancreatic mass that contributes to the biliary obstruction should undergo an ERCP for biliary drainage or a percutaneous biliary stent implantation in addition to combination chemotherapy. This would help anticipate rapid symptom control and prevent complications such as cholangitis.

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