

Pancreatic Metastases from a Small Cell Lung Carcinoma: A Case Report

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Abstract

The pancreas is an uncommon site of metastases of small cell lung carcinoma. Pancreatic metastasis occurs toward the end stage of disease. Few cases only were reported in the literature. This case presents a 56 year-old man diagnosed with disseminated small cell lung carcinoma to multiple sites including pancreas. The current paper is presented in order to increase the awareness of this relatively rare condition.

Keywords: Small cell lung carcinomas (SCLC); Pancreatic metastasis; Prognosis

Background

Small cell lung carcinomas (SCLC) represent almost 20-25% of all bronchogenic carcinoma and constitutes a group of tumors with high potential of metastases at the time of diagnosis [1,2]. The pancreas is an uncommon site of secondary localization from this neoplasm [3]. Limited data are available concerning incidence, clinical picture, management and prognosis for pancreatic metastases of small cell lung carcinoma. In this paper, we report a case of documented pancreatic involvement due to small cell lung carcinoma and we review the related available literature.

Case Report

A 56 year-old man, with a history of smoking (30 pack-years) presented with persistent cough, left chest pain, epigastric tenderness and weight loss. Computed tomography (CT) scan of the chest showed a mediastino-pulmonary mass, 10.6 × 7 cm in size invading adjacent structure with carcinomatous lymphangitis and contralateral pulmonary nodules (Figure 1a and 1b). Bronchoscopy revealed complete stenosis of the apico-posterior segment of the bronchus of the upper left lobe. Trans-bronchial needle Biopsy was positive for neuroendocrine small cell lung carcinoma (Figure 2). CT scan of abdomen and pelvis showed multiple hepatic secondary lesions, bilateral adrenal metastases, peritoneal carcinomatosis and a mass in

the pancreatic tail suggestive of metastases (Figure 1c). Brain magnetic resonance imaging (MRI) and bone scintigram were normal. CT-scan-guided biopsy of the pancreas was carried out, which showed small cell carcinoma of pulmonary origin. Immunohistochemical staining was positive for thyroid transcription factor-1 (TTF-1), synaptophysin, and chromogranin A (Figure 3). Thus the patient was diagnosed to have pancreatic metastases from small cell lung carcinoma. First line palliative chemotherapy based on the combination of cisplatin 75 mg/m² Day 1, and VP16 100 mg/m² Days 1-2-3, every three weeks were initiated. The tumor showed partial response after four cycles of chemotherapy (Figure 4). A prophylactic cranial irradiation was

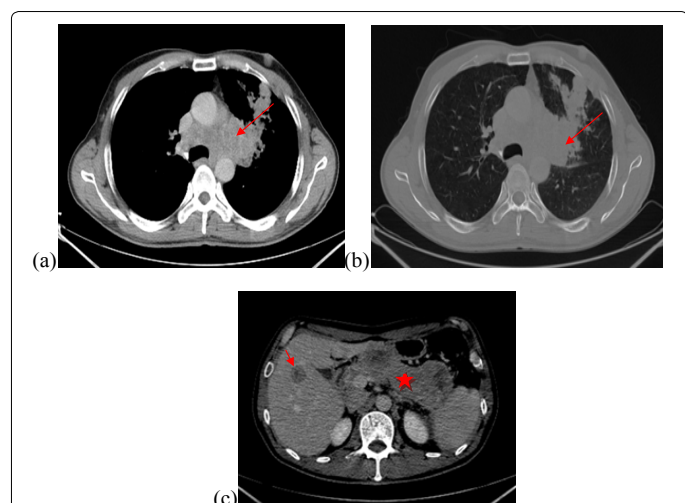


Figure 1: Enhanced CT scan of chest and abdomen in axial plan showing mediastino-pulmonary tumor (1a and 1b) and secondary pancreatic and hepatic lesions (1c).

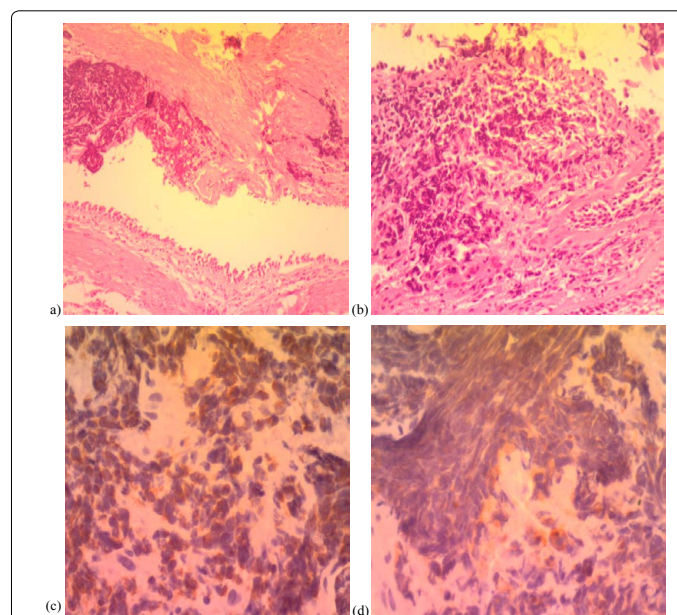


Figure 2: Small cell lung carcinoma HEX100 (a) and HEX400 (b), showing positive stain with cytokeratin (c) and synaptophysin markers (d).

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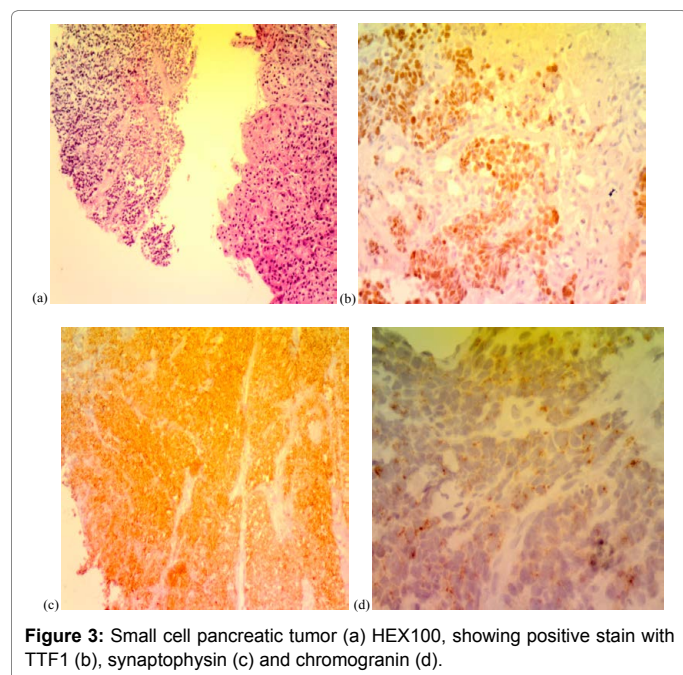


Figure 3: Small cell pancreatic tumor (a) HEX100, showing positive stain with TTF1 (b), synaptophysin (c) and chromogranin (d).

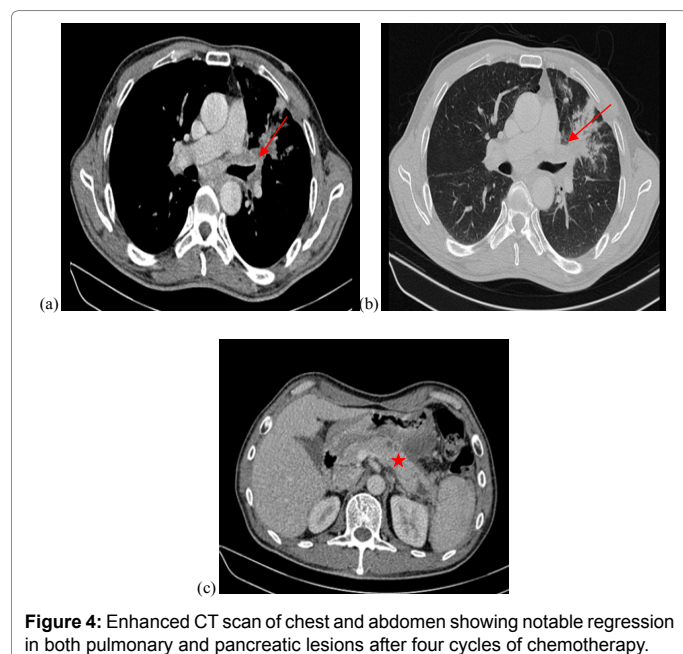


Figure 4: Enhanced CT scan of chest and abdomen showing notable regression in both pulmonary and pancreatic lesions after four cycles of chemotherapy.

performed. The patient survived for eight months. The patient's course was favorable, without complications.

Discussion

Metastatic localizations in the pancreas are infrequent clinical conditions. Three to twelve percent of advanced malignancy patient's autopsies show these metastases [4]. Lung cancer is the primary tumor of 18 to 27% of pancreatic metastases followed by clear cell carcinoma of the kidney, breast, colorectal and hepatobiliary tract cancers. On the other hand, small-cell carcinoma is the most common histological type of lung cancers that metastasizes to the pancreas (10%). Less frequently, adenocarcinoma (2.4%), large cell carcinoma (1.9%) and finally

squamous cell carcinoma might spread to the pancreas [5]. Additional intra-abdominal sites, mostly hepatic and suprarenal, have been reported in 97% of lung cancer metastases to the pancreas. Pancreatic metastases are usually asymptomatic, as were seen in our patient, or the symptoms are nonspecific [6]. Similar to primary pancreatic carcinoma, the majority of symptoms related to the secondary localizations in the pancreas are not organ-specific, including weight loss, fatigue, abdominal or back pain and jaundice and vomiting [7]. The most frequently reported symptoms of pancreatic localizations from lung cancer are obstructive jaundice and acute pancreatitis [8,9]. Thus, early diagnosis of pancreatic metastasis has an important contribution to perform an immediate and appropriate therapy of the disease especially for solitary lesion. The clinical diagnosis of metastatic pancreatic tumors is difficult. Imaging studies may aid to presume the primary cancer in patients with association of pancreatic and lung neoplasms. Most of metastases in the pancreas localize to the head of the gland [10]. Although secondary pancreatic tumors tend to be multiple rather than single, the usual pattern of pancreatic metastasis from lung cancer was reported to be a solitary mass [11]. The diagnostic technique of choice is an abdominal CT scan. The role of positron emission tomography (PET) is still uncertain. PET has been reported to detect up to 10% of unsuspected lung cancer metastases not observed by CT scan [12]. However, imaging alone is not able to distinguish between primary pancreatic tumors from metastatic lesions reliably. Pathology provides the only sure diagnostic method. Confirming the diagnosis of nonoperative pancreatic metastases can spare the patient from unnecessary surgery for either diagnostic purposes or incorrectly suspected primary pancreatic cancer [13,14]. Small cell lung carcinoma with pancreatic metastasis has a bad prognosis. However, when patients with solitary metastases to the pancreas are carefully evaluated and selected, they become candidates for pancreatic resection, with certain patients achieving long-term survival [8,15,16]. As in the present case, the majority of lung cancer patients suffer from widespread disease that is unresectable [5]. Platinum-based chemotherapy has been shown to increase patients' survivals and quality of lives. Cisplatin-etoposid Chemotherapy is more adequate for patients with a good Karnofsky index. Liu et al. studied 20 patients with lung cancer metastasis-induced acute pancreatitis, of which five were from small cell lung cancer [9]. It was found that the group treated with chemotherapy exhibited a longer mean survival time (161.9 days) than those without chemotherapy treatment (25.0 days) (P 0.01).

Conclusion

Pancreatic metastases from small cell lung carcinoma are not uncommon. Our paper is one of rare reported cases in the literature. Consequently, clinicians must be aware of this manifestation and the diagnosis should be suited in patients with known small cell carcinoma.

Disclosure

The authors declare no conflict of interest.

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