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Gastric Metastasis from Small Cell Lung Cancer

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Abstract

Metastases of lung carcinoma to the stomach are rare. An 84-year-old male with small cell lung cancer confirmed by radiologic, bronchoscopic and histopathologic findings during admission presented with exersional dyspnea and melena. Upper gastrointestinal endoscopy revealed three "volcano-like" lesions in the gastric corpus, pathologically and immunohistochemically proven to be a metastatic small cell lung carcinoma. The patient died of respiratory failure on the 13th hospital day. (J Intern Med Taiwan 2007; 18: 125-128)

Key Words ：**Small cell lung cancer, Gastric metastasis, Gastrointestinal bleeding**

Introduction

Metastatic neoplasms involving the upper gastrointestinal tract are rare. The tumors that most frequently metastasize to the upper gastrointestinal tract are reported to be melanoma, lung cancer and breast cancer[1]. To our best knowledge, less than 60 cases of gastric metastasis from small cell lung cancer have been reported in the English literatures[2]. We report herein a case of gastric metastasis secondary to small cell lung carcinoma presenting with upper gastrointestinal bleeding.

Case Report

An 84-year-old male was admitted to our hospital presenting with exertional dyspnea and melena of three days' duration. The patient had a 5-year history of diabetes mellitus and had been smoking cigarettes for 60 years. One month previously, there was one episode of upper gastrointestinal bleeding for which an upper gastrointestinal endoscopy was carried out at another hospital showing multiple ulcers in the stomach. Physical examination was unremarkable. Abnormal laboratory studies are hemoglobin was 11.3 g/dl (nor-

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mal 12-16 g/dl), positive stool occult blood, carcinoembryonic antigen 47.6 ng/ml (normal <3.0 ng/ml) and carbohydrate antigen 19-9 219.0 IU/ml (normal <37.0 IU/ml). Chest radiographs disclosed a right hilar mass with extension into right upper lung. Computed tomographic scan of the chest demonstrated a right hilar tumor with right paratracheal and subcarinal lymphoadenopathy and bilateral pleural effusion (Fig. 1). Bronchoscopy showed a protruding mass in the right upper bronchus (B2). Pathologic biopsy specimens taken from the bronchial tumor mass revealed a small cell carcinoma. At upper gastrointestinal endoscopy, there were three raised lesions with central ulcerations of variable sizes between 0.5 cm and 1.2 cm, appearing as "volcano-like" lesions, in the greater curvature of the gastric corpus (Fig. 2). Histopathologic findings (Fig. 3) and immunohistochemical studies (Fig. 4) of biopsy specimens from the gastric ulcerative lesions were proven to be of the same histology of small cell carcimoma as in the bronchial tumor. Subsequently dyspnea associated with fever and hypotension (blood pressure: 84/50 mmHg) was noted, but his family declined further treatment. The patient died of respiratory failure on the 13th hospital day.

Fig.1.Contrast enhanced computed tomography of the chest showing a large tumor mass in the right hilar area (arrow)

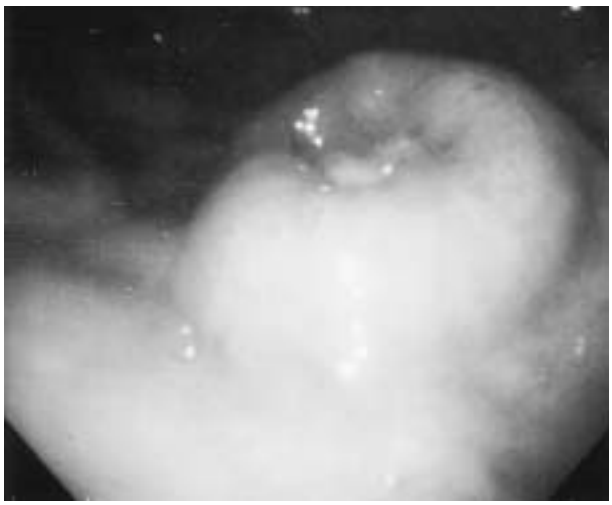

Fig.2.Endoscopic photograph showing an elevated lesion with central ulceration in the greater curvature of the gastric corpus

Discussion

Metastatic neoplasms of the stomach are quite rare with a reported incidence of from 0.7% to ap-

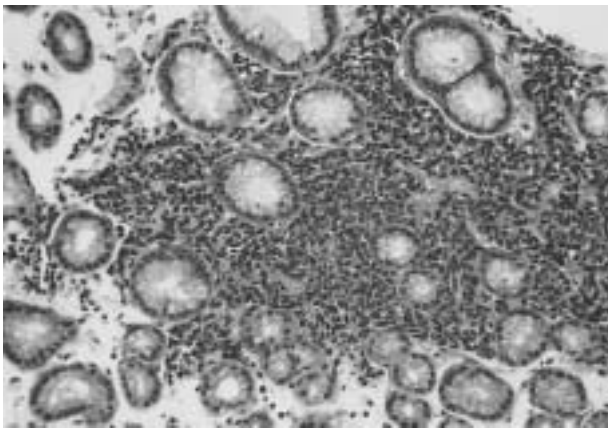

Fig.3.Histopathologic findings of biopsy specimen taken from gastric ulcerative lesions showing a metastatic small cell cancer (H&E, X 400)

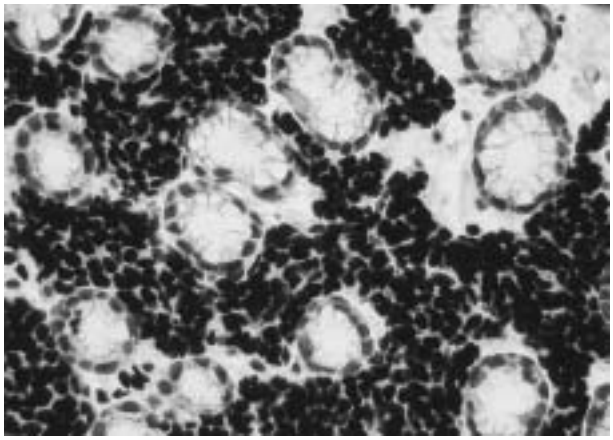

Fig.4.Immunohistochemical studies of biopsy specimens taken from an ulcerative lesion of the stomach showing a metastatic small cell carcinoma (thyroid transcription factor 1, X 400)

proximately 2% in patients with known malignancies [3-5] and a frequency of 2% to 9% in autopsy cases of lung cancers [6]. Bronchogenic carcinoma is characterized by its propensity to metastasize widely, and although metastases are occasionally found in the gastrointestinal tract at postmortem [7], it is rare for them to become clinically apparent. The route by which lung cancers metastasize to the stomach is not well described, however hematogenous spread is thought to be the most likely cause. Most of the metastatic lesions were located in the middle and upper third of the stomach [7], mainly on the greater curvature. Metastatic lesions often involve the submucosa of the stomach. As the lesions enlarge, there may be erosions of overlying gastric mucosa with diminishing blood supply to its central portion. The ulceration that occurs has most often been attributed to necrosis secondary to diminished blood supply, although gastric acid may also have an effect. Although these patients are often asymptomatic, anemia [8], abdominal pain [9], nausea, vomiting, melena[8], hematemesis, obstruction [10], and gastric perforation [11] have all been reported.

The diagnosis of gastric metastasis is usually made by autopsy, radiological studies, or surgical exploration, and only rarely during endoscopic intervention. The radiologically characteristic findings of gastric metastases are "bull's eye" or "target" lesions [12] due to accumulation of barium within central ulcerations of the gastric metastatic lesions. Three main morphological features of endoscopic findings were reported: (1) multiple nodules of variable size with a central ulcer; (2) submucosal, raised, and ulcerated at the tip and defined as "volcano-like"; and (3) raised areas without a central ulcer [13,14]. In few cases, the lesions appear as polyps or raised plaques[1]. The diagnosis of our case might be unduly delayed because the patient was mistakenly considered to have simple ulcers of the stomach at the previous endoscopic examination done one month prior to current admission. A careful histologic evaluation and strong clinical suspicion with knowledge of various features of gastric metastatic lesions are important in the accurate diagnosis.

Treatment recommendation for extensive-stage disease includes combination chemotherapy for cases with good performance status or modified-dose combination chemotherapy for those with poor performance status and prophylactic cranial radiotherapy for complete tumor responders. The prognosis for those individuals with gastric metastases secondary to lung cancers is grave.

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肺小細胞癌合併胃轉移

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摘　要

肺癌合併上胃腸道轉移在臨床上相當少見。我們報告一例84歲男性病患，因呼吸喘及解黑便住院，胸部X光及胸部電腦斷層檢查發現在右側肺門及右上肺有腫瘤組織浸潤，且支氣管鏡也發現有凸出之腫瘤組織在右上肺支氣管壁上，經切片檢查發現爲肺小細胞癌。另外胃鏡檢查發現三個像"火山口"樣的潰瘍在胃體部，經切片檢查証實爲轉移性肺小細胞癌。此病患在住院第十三天因呼吸衰竭而過世。