Squamous Cell Carcinoma of the Hilar Lymph Node with Unknown Primary Tumor: A Case Report

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We herein report a rare case of squamous cell carcinoma (SCC) located in the hilar nodes with unknown primary tumor. A 56-year-old man underwent a thoracotomy under the clinical diagnosis of lung cancer with hilar nodes involvement. The tumor was found at the hilus and resected without pulmonary resection. The pathological diagnosis of this tumor was metastatic SCC in hilar lymph nodes. Examinations of the whole body failed to detect a primary site of the SCC. The patient is doing well with no clinical sign of recurrence 32 months after surgery. (Ann Thorac Cardiovasc Surg 2008; 14: 242–245)

Key words: squamous cell carcinoma, unknown origin, hilar node

Introduction

Metastatic squamous cell carcinoma (SCC) in hilar or mediastinal lymph nodes without primary site is rare. SCC metastatic to hilar or mediastinal lymph nodes is usually due to lung cancer; however, an association with an unknown primary tumor is quite rare and to our knowledge only a few reports of this have been made in English-language medical literature. We herein report a rare case of SCC located in the hilar nodes with unknown primary tumor.

Case Report

A 56-year-old Japanese man with no symptoms was admitted for evaluation of an abnormal shadow on his chest roentgenogram, which was incidentally pointed out at a health checkup. He has no prior history of respiratory or malignant diseases and smoked one pack of cigarettes daily for 35 years. Physical examination on admission revealed no remarkable abnormal findings. All laboratory data were within normal limits except for a slightly elevated serum SCC antigen level.

Chest roentgenogram demonstrated a mass shadow on the left pulmonary hilus (Fig. 1). A chest computed tomography (CT) scan identified a 4-cm diameter, heterogeneous, regular-shaped tumor (Fig. 2). There was a possibility that the tumor would invade the left pulmonary artery. The 2-fluoro-2-deoxy-D-glucose positron emission tomography (FDG-PET) revealed an abnormal accumulation of FDG in this tumor, but no other abnormal accumulations (Fig. 3). Although we failed to obtain a pathological diagnosis by means of bronchoscopy, thoracotomy was carried out under clinical diagnosis of lung cancer with hilar nodes involvement. A lobulated, firm mass was found at the left pulmonary hilum, but not in the lung. This tumor was encapsulated, separated distinctly from pulmonary artery, and resected without pulmonary resection (Fig. 4). The microscopic examination revealed SCC, and the tumor cells had replaced most of the lymph node (Fig. 5). After surgery, we clinically examined the possible primary sites, including the esophagus, larynx, and pharynx; however, no other tumors could be detected. Two months after surgery, FDG-PET was done again, and the result revealed no abnormal accumulation of FDG (Fig. 6).

He refused to receive additional therapies, and we followed with none. Although we did not perform
FDG-PET recently, follow-up has been done using chest CT scan and tumor scintigraphy. The patient is doing well with no clinical sign of recurrence 32 months after surgery.

**Discussion**

Metastatic carcinoma in hilar or mediastinal lymph nodes without primary site is rare, especially SCC. Riquet et al. reported 8 cases of metastatic thoracic nodes without primary site; however, metastatic SCC was reported in only 1 case.

There are 3 hypotheses regarding this patient. The first is that this tumor is a metastatic lymph node from a primary SCC. However, clinical examinations of the whole body, including FDG-PET, failed to detect a primary site. According to the tumor-node-metastasis (TNM) classification, the present case might be consid-
Fig. 3. The 2-fluoro-2-deoxy-D-glucose positron emission tomography (FDG-PET) reveals an abnormal accumulation of FDG in the tumor and no other abnormal accumulations.

Fig. 4. Photograph of the resected tumor.

Fig. 5. Histological examination of the resected tumor reveals squamous cell carcinoma (SCC).

Fig. 6. FDG-PET after surgery reveals no abnormal accumulation of FDG.

Considered as T0 cancer. There is a possibility of spontaneous regression of the primary site. The second hypothesis is that the carcinoma cells arose from an ectopic thymus in the hilum of the left lung. Because of no thymic tissues in the tumor of our case, the possibility of this hypothesis might be slight. The third hypothesis is the possibility that the carcinoma cells originated from benign epithelial inclusions in the lymph node. The occurrence of ectopic epithelium in lymph nodes might be due to embryonic admixing. Benign epithelial inclusion has been occasionally reported to exist in the lymph node,\textsuperscript{4-7} and there has been a report describing a carcinoma originating from benign epithelial inclusion in an axillary lymph node.\textsuperscript{7} Masaki et al.\textsuperscript{8} reviewed 36 cases (9 SCCs) of hilar or mediastinal lymph-node carcinoma without primary lesion reported in Japan, and they supported the third hypothesis. If these metastatic lymph nodes were due to lung cancer,
they are diagnosed as pN1 or pN2 disease. However, the prognoses of these patients were more favorable than those of pN1 or pN2 lung cancer patients, in spite of limited lymph node resection without pulmonary resection. Therefore Masaki et al. suggested that these cases were difficult to be considered as lung cancer patients, and they called this condition “primary lymph-node carcinoma.”

In conclusion, we report a rare case of SCC located in the hilar nodes with unknown primary tumor.

References