Case Report

Abdominal lymph node metastasis from prostatic adenocarcinoma in a patient with esophageal squamous cell carcinoma

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Abstract

We report a case of prostate cancer that was discovered by lymph node metastasis to along the common hepatic arterial nodes. The patient was a 72-year-old man who had undergone esophagectomy as surgical treatment of esophageal cancer. The obtained specimen of along the common hepatic arterial lymph node showed adenocarcinoma, which was positive for prostate-specific antigen (PSA). The histological findings of the esophageal lesion demonstrated squamous cell carcinoma. Serum PSA was 350 ng/ml and prostate needle biopsy revealed adenocarcinoma. The patient commenced on total androgen blockade consisting of LH-RH analogue and bicalutamide (anti-androgen). However, the patient died due to recurrence of esophageal carcinoma.

Key Words: Prostate cancer, Esophageal cancer, Lymph node metastasis

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Introduction

Prostate cancer is one of the most frequent cancers in males in Western countries, and the incidence has increased in recent years in Asian countries^{1,2)}. Since prostate cancer is generally slow growing, subjective symptoms are unlikely before disseminated disease appears and about one-third to half of patients with prostate cancer thus exhibit metastatic lesions at presentation. We report a case of prostate cancer that was discovered by lymph node metastasis to along the common hepatic arterial nodes in a patient with esophageal cancer.

Case Report

A 72-year-old man presented with a 1 month history of progressive dysphagia, and was referred to our hospital. Ten years previously he had undergone patch occlusivity for ventricular septal defect (VSD) and then he was administered anticoagulation therapy with warfarin. The physical examination and the hematological examination were revealed severe anemia (Hb 6.7 g/dl) and digital rectal examination revealed unremarkable. The measurement of squamous cell carcinoma (SCC) antigen and cytokeratin 19 fragments (CYFRA) were slightly

higher. An upper gastrointestinal endoscopy revealed type 2 tumor lesion located lower thoracic esophagus to gastric cardia (Fig. 1A) and histological examination of the esophageal biopsies revealed squamous cell carcinoma. Esophagography revealed esophageal tumor, 8 cm in length, with an irregular wall in the lower thoracic esophagus to gastric cardia (Fig. 1B). Staging studies were performed. Computed tomography (CT) revealed metastatic lymph node along the lesser curvature of the proximal stomach (Fig. 2A) and prostate hypertrophy with small calcification (Fig. 2B). However, we did not carry out a through more examination of prostate. Then, we performed thoracoabdominal esophagectomy with intrathoracic esophagogastrostomy. Histological analysis revealed that esophageal tumor was squamous cell

Fig. 1 Upper gastrointestinal endoscopy showed a type 2 tumor located lower thoracic esophagus (A). Esophagography showed a large filling defect on the left wall of the lower thoracic esophagus (B, arrows).

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Fig. 2 Computed tomography (CT) showed lymph nodes swelling on the lesser curvature of the proximal stomach (A, arrow). CT of pelvis showed a prostate hypertrophy with small calcification (B, arrows).

Fig. 3 Histological findings revealed the esophageal tumor consisted of moderately differentiated squamous cell carcinoma (A, HE, x 20). Section through abdominal lymph node showed metastatic adenocarcinoma with cribriform pattern (B, HE, x 4).

Fig. 4 Abdominal lymph node showed adenocarcinoma with an immunohistochemical staining that is strongly positive for PSA (A, x 4). Needle biopsy specimen of the prostate showed adenocarcinoma (B, HE, x 10).

carcinoma (Fig. 3A) and 4 of the 7 gastric lesser curvature lymph nodes retrieved were positive for metastatic squamous cell carcinoma. At the same time, a metastatic lymph node of adenocarcinoma was found along the common hepatic artery lymph node (Fig. 3B). This metastatic lymph node stained strongly for prostate-specific antigen (PSA) (Fig. 4A). Then, we examined serum PSA levels that were elevated to 350 ng/ml. Needle biopsy of the prostate was performed. Histological examination

showed adenocarcinoma (Gleason score, 3+4=7) and prostate cancer was diagnosed (Fig. 4B). Bone scintigraphy did not reveal abnormal uptake. The patient commenced on total androgen blockade consisting of LH-RH analogue and bicalutamide (anti-androgen). One month later, PSA level decreased to 121 ng/ml. However, CYFRA levels had markedly increased and multiple liver metastasis were found. The patient's general medical condition was progressively decreased and he died 3

months after operation of the esophageal cancer.

Discussion

Adenocarcinoma of the prostate is the second most common carcinoma in men, with an estimated incidence of 30% over the age of 50 years. It most often metastasizes to regional lymph nodes and bone by hematogenous and lymphatic spread. Lymphatic spread typically occurs in obturator-hypogastric lymph nodes. Metastasis to mediastinal, supraclavicular, cervical and non-regional abdominal lymph nodes are uncommon³⁻⁵⁾. Metastasis to non-regional abdominal lymph nodes are relatively rare (1.6%)⁶⁾. Reported incidence of metastasis to mediastinal nodes and sternoclavicular nodes are 2.2 % and 2.8 % respectively that are slightly higher than metastasis to non-regional abdominal lymph nodes⁶⁾. Moreover, this case is very rare that histological examination of another operation was triggered to diagnose metastatic prostate cancer. We found only three case reports that were discovered metastatic lymph nodes of prostate cancer by another operation^{7,8)}. There are two reports of prostatic cancer that were discovered by metastasis to interlobular lymph node of the lung by lung cancer operation⁸⁾. Another case is discovered by metastasis to paraesophageal lymph node by esophageal operation⁷⁾. In the present case, histological examination revealed that adenocarcinoma metastasis to abdominal lymph nodes with cribriform pattern (Fig. 3B). Typically glands of prostatic adenocarcinoma have a single cell lining, although stratification can be seen in invasive carcinoma with a cribriform architecture, including ductal carcinoma⁹⁾. Previous reported cases^{7,8)} also showed metastatic lymph node with cribriform pattern by hematoxylin and eosin staining. Moreover, serum PSA examination and immunohistochemical staining for PSA were useful in detecting the primary site.

Following commencement of the total androgen blockade consisting of LH-RH analogue and bicalutamide (anti-androgen), a significant drop in serum PSA level from 350 ng/ml to 22.7 g/ml with in 2 months of treatment. We found multiple liver metastasis two months later of the operation. We diagnosed that the origin of these liver metastasis was esophageal cancer. Because CYFRA level which tumor marker of esophageal SCC was significant rising.

In conclusion, we provide in this case report a rare case of metastasis from a prostate adenocarcinoma to the abdominal lymph nodes, which were discovered at esophagectomy for a squamous cell carcinoma.

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