CASE REPORT

Sudden Death from Metastatic Esophageal Cancer to the Ventricular Septum

A 67-year-old man was admitted to our hospital due to esophageal cancer. Cancer existed at the lower esophagus and subtotal esophagectomy and lymphadenectomy was performed. The postoperative course was uneventful. Pathological findings revealed moderately differentiated squamous cell carcinoma that metastasized to the abdominal lymph nodes which include the paraaortic lymph nodes. He complained of anorexia three months after the operation and was found to have multiple liver and mediastinal lymph node metastases. He was admitted for chemotherapy. Before starting chemotherapy, he suddenly died without any sign of hemorrhage or respiratory disorder. Autopsy showed metastatic lesions to the heart and mediastinal lymph nodes, liver, thoracic vertebrae, kidney, adrenal gland and heart. Metastatic nodules in the heart were on the ventricular septum where the conducting system exists. No direct invasion from the pericardium was observed. Blockade of the conducting system of the heart was considered to have caused the severe arrhythmia and sudden cardiac arrest.


Key words: esophageal cancer, cardiac metastasis, sudden death, myocardial metastasis

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Case

A 67-year-old man was admitted to our hospital due to esophageal cancer. Preoperative esophagogram and endoscopy showed a 6-cm ulcerative esophageal lesion (type 2) at the lower esophagus (Fig. 1). This lesion was histologically proven to be a moderately differentiated squamous cell carcinoma. Preoperative examination showed no direct invasion to the surrounding organs on computed tomography (CT) scan, and no distant metastasis was noted on magnetic resonance imaging (MRI) and bone scintigram. Esophagectomy, with 2-field lymphadenectomy including the paraaortic lymph nodes and reconstruction with a gastric tube through the posterior mediastinum were performed. The postoperative course was uneventful, and oral dietary was started on the 10th postoperative day. Postoperative findings showed that the type 2 lesion of moderately differentiated squamous cell carcinoma was at the lower esophagus and invaded into the adventitia with no intramural metastases. There was also mild lymphatic invasion (ly1), moderate blood vessel invasion (v2; Fig. 2), and four lymph node metastases that included the paraaortic lymph nodes out of the 43 dissected lymph nodes. There were no carcinoma cells on surgical margins (PM(-), DM(-), EM(-)). He complained of anorexia and general fatigue 3 month after the operation. Chest X-ray showed a left pleural effusion and CT showed multiple liver (Fig. 3) and mediastinal lymph node metastases. Furthermore, endoscopic examination revealed multiple metastases to the remnant esophagus. He was admitted to receive chemotherapy. He suddenly died three days after admission for chemotherapy. Autopsy revealed recurrent squamous cell carcinoma of the esophagus, which involved the heart, mediastinum, trachea, liver, retroperitoneum, right kidney, left adrenal gland, thoracic vertebrae and lymph nodes in the pulmonary hilar and retroperitoneal regions. There was a yellow serous pleural effusion and a small amount of pericardial effusion without cancer cells. He did not show signs of dyspnea right before death. Tracheal metastases had
Fig. 1.
A: Esophagogram shows irregular margined filling defect of the lower esophagus.
B: Endoscopic examination shows well defined type 2 lesion at the lower esophagus.

Fig. 2. Moderately differentiated squamous cell carcinoma invaded the adventitia with venous invasion (v2; arrow) outside of adventitia.

Fig. 3.
A: Multiple liver metastases on CT.
B: It is difficult to detect cardiac metastasis by CT.