Metacarpal Bone Metastasis from Lung Cancer

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We previously read with interest the article by Kouvaris et al. (March 2005) on isolated talus metastasis from breast carcinoma [1]. We would like to share our experience with a patient whose condition was very similar to that reported by Kouvaris et al. [1]. Bone metastasis in distal parts of the extremities is very rare [2–4]. This distant spread may imply that cancer cells may reach many sites of the whole body via the bloodstream and the lymphatic system. Like all other metastatic lesions, bone metastasis in distal parts of the extremities reflects the progression of the primary malignancy. This report describes metastasis to the metacarpal bone in the left hand, arising from an adenocarcinoma of the lung.

A 78-year-old man with biopsy-proven lung adenocarcinoma in the left upper lung (fig. 1) was referred to our hospital for further evaluation and treatment. The patient was diagnosed as having resectable disease (UICC stage T1N0M0 stage IA). However, because of poor respiratory condition due to chronic obstructive pulmonary disease and a poor performance status, he was evaluated as being not well enough to receive surgical resection or concurrent chemoradiotherapy. A total dose of 64 Gy of chest irradiation was performed, and the response was evaluated as complete response (CR). Two months after the diagnosis of lung cancer, the patient developed a painful swelling of the left hand. X-ray examination showed an osteolytic lesion in the hamate bone (fig. 2). Magnetic resonance imaging demonstrated a metastatic lesion with low signal intensity on T1 weighted image (fig. 3). Small but hot uptake was observed on fluorodeoxyglucose positron emission tomography (FDG-PET). The histological examination of a specimen obtained by biopsy confirmed metastatic lung adenocarcinoma. Because no other abnormal uptake was detected in FDG-PET, the osteolytic manifestation of the left hand was considered the only metastatic site. A total dose of 27 Gy of irradiation was delivered to the left hand, resulting in

Fig. 1. Chest computed tomography showing lung adenocarcinoma in the left upper lung.

Fig. 2. X-ray showing osteolytic lesions in the hamate bone (arrows).

Fig. 3. Magnetic resonance imaging showing metastatic lesion in the hamate with low signal intensity on T1 weighted image (arrows).

complete disappearance of both pain and swelling. Thereafter, the patient received 2 courses of platinum-containing chemotherapy. These therapies resulted in a second CR as no other lesion was detected at that time. Although the

metacarpal lesion was controlled, he developed liver metastasis 21 months after completion of chemotherapy. The patient died 1 month after the recurrence.

The most common sites of bone metastasis from lung cancer are the ribs and the thoracic and lumbar spine. However, metacarpal bone metastasis in lung cancer is extremely rare. To our knowledge, metastasis to the hamate bone has never been reported in the English literature. It may mimic benign lesions with consequent misdiagnosis, and the lesion of our patient was first considered as primary bone disease because of its unusual location for a metastasis. Biopsy, however, revealed adenocarcinoma. Most patients with bone metastasis of lung cancer die within 1 year [5]. However, our patient did not have extensive metastasis when the metacarpal bone metastasis was found and survived for almost 2 years. We evaluated that the metacarpal bone metastasis was the only metastatic site because there was no other abnormal uptake in

FDG-PET at that time. We do not know exactly why the patient survived a relatively long time, but we suppose that good response to the chemotherapy may be one of the reasons for a favorable outcome. Physicians should have a high degree of suspicion of bone metastasis when patients with lung cancer present with pain and swelling at any skeletal site. Biopsy should be performed from the lesions located even at uncommon sites for patients who have a history of uncontrolled lung cancer. Prompt radiation therapy may contribute to a higher quality of life in the symptom-free interval. It is important to know that bone metastasis in distal parts of the extremities may occur in patients without extensive metastases.

Conflicts of Interest

All authors declare that they have no conflicts of interest.

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