Case Report

Squamous cell carcinoma of lung with unusual site of metastasis

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Received: 3 Oct 2011
Revised: 10 Nov 2011
Accepted: 3 Dec 2011

Abstract

Background: Lung cancer ranks among the most common and most lethal malignancies worldwide. Once vascular or lymphatic invasions occur, metastatic dissemination to distant sites is common. Bone, liver, adrenals, and brain are the most frequent sites of the distant disease. In this study we present a case of squamous cell carcinoma of lung with metastasis of the left knee bursa.

Case presentation: A smoker man presented with cough and hemoptysis and squamous cell carcinoma of lung was diagnosed. Fourteen months later he developed pain and swelling of left knee. The biopsy and pathologic examination of the left knee bursa showed involvement of the bursa.

Conclusion: Squamous cell carcinoma of lung can metastasize in the unusual sites of the body.

Keywords: Squamous cell carcinoma, Lung, Metastasis, Knee bursa.

Caspian J Intern Med 2012; 3(2): 440-442

Lung cancer ranks among the most common and most lethal malignancies worldwide. Major treatment decisions are made on the basis of whether a tumor is classified as a small cell lung carcinoma (SCLC) or as one of the non-small cell lung cancer (NSCLC) varieties (squamous, adenocarcinoma, large cell carcinoma, bronchioloalveolar carcinoma, and mixed versions of these) (1). After variable periods of growth within the lung parenchyma or within the bronchial wall, primary tumors invade the vascular and lymphatic channels, thereby metastasizing to regional lymph nodes and distant sites; in most instances, regional lymph node metastasis precede systemic dissemination. By direct extension, the primary tumor can invade contiguous structures, such as the mediastinal pleura, great vessels, heart, esophagus, diaphragm, or chest wall. Once vascular or lymphatic invasions occur, metastatic dissemination to distant sites is common (2). Whereas, bone liver, adrenals, and brain are the most frequent sites of the distant disease, lung cancers metastasize to virtually every organ of the body (3).

Paraneoplastic syndromes are common in patients with lung cancer and may be the presenting finding or first sign of recurrence. Skeletal–connective tissue syndromes include clubbing in 30% of cases (usually non-small cell carcinomas) and hypertrophic pulmonary osteoarthropathy in 1–10% of cases (usually adenocarcinomas), with periostitis and clubbing causing pain, tenderness, and swelling over the affected bones and a positive bone scan. Polyarthritis or symptoms that mimic polymyalgia rheumatica, may be the presenting manifestation of the malignancy (4, 5). In this study, we present a case of lung squamous cell carcinoma with an unusual site of metastasis.

Case presentation

A 54 year old smoker man was presented with cough and hemoptysis with one month duration. Two months ago, the patient visited a rheumatologist because of polyarthralgia and leg pain.

CT scan of lung revealed a solid cystic mass in left upper lobe that had collapsed left hemithorax, left hilar lymphadenopathy and a little left plural effusion. Bronchoscopy and transbronchial lung biopsy were done and pathology reported squamous cell carcinoma of lung. Chemotherapy was started. Because of hemoptysis, radiotherapy was started after 4 courses of chemotherapy. Reevaluation of the patient showed a partial response and monochemotherapy with docetaxel was started. After the four courses, the general condition of the patient became better and he was followed up. One year after the chemotherapy, seizure occurred and brain CT scan showed brain metastasis. Radiotherapy of brain was started.

Simultaneously, left knee swelling with severe pain and limitation of motion occurred (figure 1). The patient was examined by a rheumatologist and the diagnosis was anserin bursitis, not arthritis. Knee x-ray and then needle aspiration of the bursa was done and the pathologist reported the presence of malignant cells, on one hand, malignant bursitis (figure 2). The patient refused further chemotherapy and died.

Figure 1. Left knee swelling

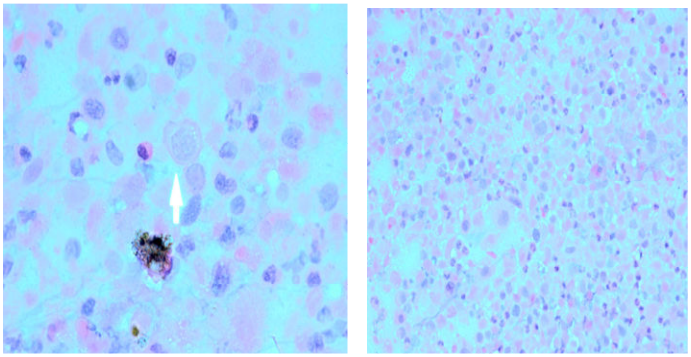

Figure 2. Cytologic features of the ancerin bursa effusion

Discussion

Lung cancer, when invades vascular or lymphatic vessels can metastasize in any organ of the body (2). Some organs commonly and more other organs less commonly or rarely involve. Gastrointestinal metastasis of lung cancer is fairly rare (6). Perfetti et al. reported juxtapapillary pancreatic metastasis with obstructive jaundice as isolated recurrence of lung adenocarcinoma (7). Yamada et al. reported a case of lung squamous cell carcinoma with metastasis to the duodenum and small intestine (6). All of the above mentioned reports were metastases of the non-small cell lung cancer where there are only occasional reports for pancreatic metastasis based on its fine needle aspiration (FNA) cytology diagnosis or immunocytochemistry (8).

Another unusual site for metastasis of lung cancer is the skeletal muscle, although the muscle tissue makes up more than 50% of the total body mass. Fernández-Ruiz et al. reported a 66 year old man with thigh muscle metastasis as initial presentation of the non-small cell lung cancer (9). Also Itou et al. reported a case of squamous cell carcinoma of the lung with metastasis to the rectus muscle of thigh (10). Kostrzewska et al. reported a 61-year-old woman presented with blindness that the posterior segment of eyeball metastasis secondary to non-small cell lung cancer was found (11).

Kaya et al. reported the first case of spermatic cord metastasis as an initial manifestation of non-small cell carcinoma of the lung in a 62-year-old-man (12). Arthralgia and leg pain before diagnosis in our patient was not defined definitely and might be due to paraneoplastic syndrome. Non-small cell lung cancer metastasize to the brain, bone, liver and adrenal glands commonly but metastatic ancerin bursitis is very rare, and no case report was found in literature. Only three cases of malignant bursitis were reported previously, all of them were throcanteric bursa and only one of them from lung cancer (13-15).

Consequently, we report the first case of ancerin bursitis due to non-small cell lung cancer. Metastasis to the bursa suggests the hematogenous spread as an important mechanism for the metastasis of lung cancer. The site of metastasis may be an indicator of the rapid progression and very late stage of lung cancer, because our patient expired 2 months after presentation and the patient reported by Patil et al. passed away three weeks after presentation (13). This case supports the concept that lung cancers metastasize virtually to every organ of the body.

Acknowledgments

The authors are grateful to Ms. Hadad for helping us with this article and Dr. Hoseini, the consulting pathologist.

Conflict of interest: There was no conflict of interest.

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