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Case Report

Primary Lung Cancer Presenting as Metastasis to Olecranon process

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ABSTRACT

A 50-year-old male presented with 4-week history of painful swelling of left elbow, dry cough, progressive breathlessness, and subjective weight loss. Examination revealed tender left elbow swelling, an enlarged right supraclavicular lymph node and digital clubbing. Chest examination revealed dull percussion note and fine crepts on the right side. Histopathology of the elbow swelling showed metastatic deposits of adenocarcinoma. CT axial section through upper chest demonstrates a cavitating mass in right upper lobe with mediastinal invasion. Although, bone metastasis is known to be the presenting symptom of primary lung cancer, olecranon process metastasis has been reported very rarely.

Key Words: Olecranon process, metastasis, lung cancer.

INTRODUCTION

Lung cancer is known to metastasize to all organ systems of the body. [1] Bone metastases from lung cancer may occur early in the clinical course even as the first manifestation and are usually painful. [2,3] Earliest sites of bone metastases are the spine and ribs, whereas the skull, femur, humerus, and scapula are involved later. [4] The incidence of olecranon metastasis is extremely rare in all cancers. We report a case of olecranon metastasis from lung cancer which is the first of its kind to the best of our knowledge.

CASE REPORT

A 50-year-old male, smoker, hypertensive on erratic treatment presented with 4-week history of painful swelling of left elbow, dry cough, progressive breathlessness, and subjective weight loss. Symptoms started 4 weeks back with pain in the left elbow which gradually became swollen. Initially, it was thought to be an infectious process, but the clinical symptoms and signs didn't improve after analgesics and antibiotic treatment for 10 days. Patient also gave history of reduced exercise tolerance and dry cough. There was no history of fever, hemoptysis, and chest pain, swelling of any other joint or swelling over feet or face. Examination showed erythematous and tender left elbow swelling with restriction of movements at elbow joint. There was an enlarged right supraclavicular lymph node and associated digital clubbing. Chest

examination revealed dull percussion note and fine crepts in the right supramammary and mammary area. A chest radiograph demonstrated demonstrating a large opacity in right upper zone (Fig.1). Oblique and lateral radiographs of left elbow demonstrate a destructive lesion of olecranon with an associated large soft tissue component. (Fig. 2) CT axial section through upper chest demonstrates a cavitating mass in right upper lobe with mediastinal invasion (Fig. 3). Bone scan was done which showed tracer uptake only at the left elbow. Histopathology of the elbow swelling showed metastatic deposits of adenocarcinoma. Patient was treated as metastatic non-small cell lung carcinoma with chemoradiotherapy. Patient survived for 1 year after the diagnosis was made.

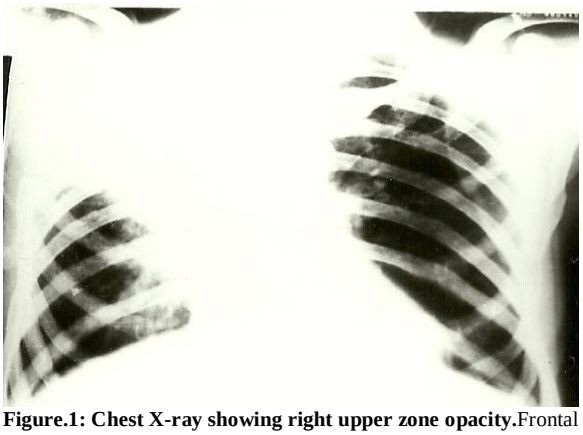

Figure.1: Chest X-ray showing right upper zone opacity. Frontal chest radiograph demonstrating a large opacity in right upper zone.

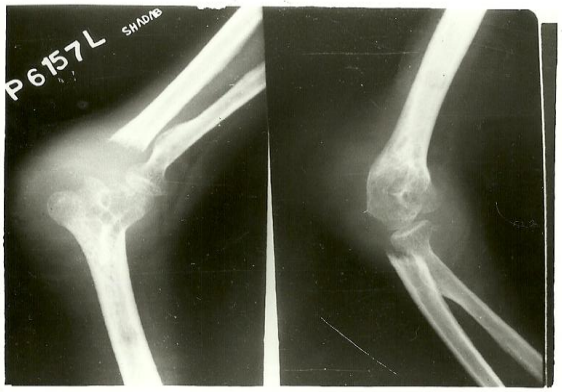

Figure 2: X-ray of left elbow showing destructive lesion of olecranon process. Oblique and lateral radiographs of left elbow demonstrate a destructive lesion of olecranon with an associated large soft tissue component.

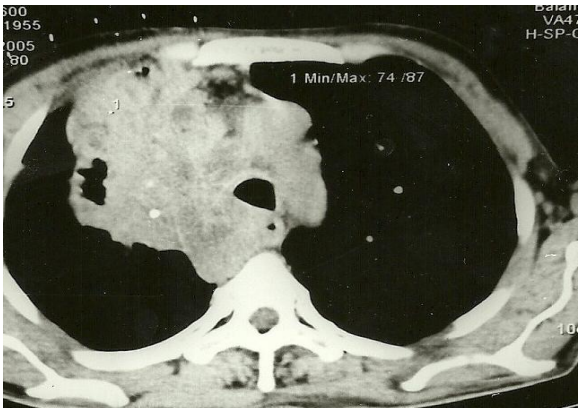

Figure 3: CECT chest showing cavitating mass in right upper lobe. CT axial section through upper chest demonstrates a cavitating mass in right upper lobe with mediastinal invasion.

DISCUSSION

Many patients with lung cancer are often diagnosed at a late stage when surgical resection is no longer possible because of local advancement or distant metastasis. [5] 5-year survival rate for patients with lung cancer is 10% to 20%, as reported by Stanley [6] and Freise et al. [7] indicating a poor prognosis. Lung cancer mostly metastasizes to bone, brain and liver. Bone metastasis from lung cancer occurs in 14% to 40% of patients. [8,9] Most common sites for bone metastasis from lung cancer are spine (42%), ribs (20%) and pelvis(18%) where there is high concentration of red marrow. [9] The major histologic type of the primary site is usually adenocarcinoma, followed by squamous cell carcinoma, small cell and large cell carcinoma. [9] The prognosis in patients with metastasis to the appendicular bone, such as the femur, is poorer than in patients with metastasis only to an axial bone, such as the vertebra, rib, or pelvis. [9] In bone metastasis from lung cancer, metastasis may occur easily at an axial bone through the vertebral vein system [10] at an early stage and then at an appendicular bone in more advanced stages of the disease. Bone metastasis has been reported to be the presenting symptom of primary lung cancer in many case reports,

but metastasis to olecranon process as the first manifestation of primary lung cancer has been rarely reported. [11] Ulna metastasis has also been reported from lung cancer in few series. [12,13] In our patient, at the time of initial diagnosis the lesion was recognized on radiography as a lytic lesion of the olecranon process. Elbow, being a rare site of bone metastasis, may lead to delay in the diagnosis as the clinician may never think of metastasis at this site. As in our case, the diagnosis was delayed for around 1 month, as it was thought to be and treated as an infectious process initially.

CONCLUSION

We conclude that when unusual bone metastases are found in the absence of a primary tumor, investigation must include chest radiographs, chest CT scan (when the lesion is not obvious on plain chest radiograph). A diagnosis of metastatic disease should be considered in patients with risk factors for, or known cancer, particularly when microbiological analysis and antibiotic treatment for presumed infection has failed to improve symptoms. Prompt diagnosis and management of these metastases and the primary site can dramatically improve a patient's quality of life and prognosis.

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