Case Report

Forearm Metastases as Unsuspected First Manifestations of Lung Adenocarcinoma

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INTRODUCTION

Lung cancer accounts the most lethal malignancy worldwide, with high rates of metastatic disease at presentation [1]. Most common metastatic locations are lungs, lymph nodes, liver, brain and bones, whilst other metastatic sites, like muscles, are rare and more often found during disease evolution [2]. Here we describe a clinical case of a patient diagnosed of a muscular metastases on left forearm as first clinical sign of a lung adenocarcinoma.

CASE PRESENTATION

An 83-year-old male who was a former smoker had pain on the left forearm accompanied with progressive swallowing in the last four to five months. Imaging studies revealed a cystic necrotic mass on the flexor digitorum superficialis muscle (biopsy: striated muscle tissue infiltrated by an adenocarcinoma). A whole-body computed tomography (CT) scan demonstrates the presence of two lung masses that were suspicious of malignancy. Diagnosed as having stage IV lung adenocarcinoma (cT4NxM1b, IASLC TNM 8th), he received chemotherapy with a carboplatin/pemetrexed-based regimen and local palliative radiation for the control of arm pain.

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Given the continuous pain in his upper right extremity, he was offered palliative local radiation therapy on his forearm metastases. The patient had a great performance status (Karnofsky: 90%, no significant comorbidities); therefore, he was offered a chemotherapy regimen with carboplatin plus pemetrexed, which he started receiving with good tolerance. Magnetic resonance imaging demonstrated a good radiological response with persistence of a residual non-vascularized lesion that was 7x10 mm in size.

Written informed consent was obtained from the patient who participated in this case.
DISCUSSION

The most frequent extrathoracic locations for lung cancer metastases are the liver, adrenal glands, brain, bone, and kidneys. Skeletal muscle (SM) metastases are uncommon (prevalence close to 0-0.8%). There are three theories that attempt to explain the low affinity of cancer cells to skeletal tissues: mechanical (muscle contractions could prevent the tumor to settle due to high blood pressure and variable local blood flow), metabolic (as a consequence of elevated lactate production, pH instability, and variable oxygen tension), and immunologic hypothesis (role of cellular and humoral immunity) [4-6].

The clinical presentation in 80% of cases is a painful palpable mass (mean size of 6 cm) that is usually located in the back, chest wall, abdomen, or thigh muscles. Magnetic resonance imaging and fluorine-18-fluorodeoxyglucose positron emission tomography are the most commonly used imaging tests to differentiate muscle metastases from other lesions with similar presentations (primary sarcomas and lymphomas). Establishing the definitive diagnosis necessitates to perform a biopsy [4].

Therapeutic options include observation, radiotherapy (useful for pain control and reduction in lesion size), chemotherapy, and surgery (for isolated lesions after a long disease-free interval). The expected survival rate fluctuates between less than 9 months to 3 years after the diagnosis of the mass. To conclude, treatment depends on the localization, clinical presentation, and prognosis of the primary tumor [4,5].

To our knowledge, this is the first published case of SM metastases in the flexor digitorum superficialis muscle as the first manifestation in lung cancer.

Informed Consent: Written informed consent was obtained from the patient who participated in this case.

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REFERENCES