

CASE REPORT

Skeletal muscle metastasis from NSCLC

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Introduction

We report here the case of a patient diagnosed with a locally advanced large-cell lung cancer. A positron emission tomography (PET) was done before the beginning of the treatment in which we saw a pathological capitation in the left median gluteus muscle. A fine-needle aspiration puncture confirmed the diagnostic of metastasis of carcinoma. We believe that PET can change the stage of locally advanced tumors, and so the treatment.

Case report

A 45-year-old female who reported being a heavy smoker was admitted for evaluation of pleuritic chest pain lasting two months, accompanied by weight loss of eight kilos. There was no evidence of coughing, sputum aeruginosum or hemoptysis. On admission, a complete physical examination was made with normal results. Chest X-rays revealed a mass in the right upper lobe (Figure 1). Bronchoscopy showed complete obstruction of the right upper lobe. CT scanning revealed a mass approximately seven centimeters in diameter, which grew from the right hilum to the periphery of the lung parenchyma with distal cavitation. Adenopathies measuring three centimeters were found in the hilum and ipsilateral mediastinum, but no evidence of disease outside the chest was found (Figure 2). Due to the presence of a large tumor mass and the clinical characteristics, we decided to request a PET scan before beginning treatment. We found a pathological captation in the left medial gluteus muscle

No potential conflict of interest.

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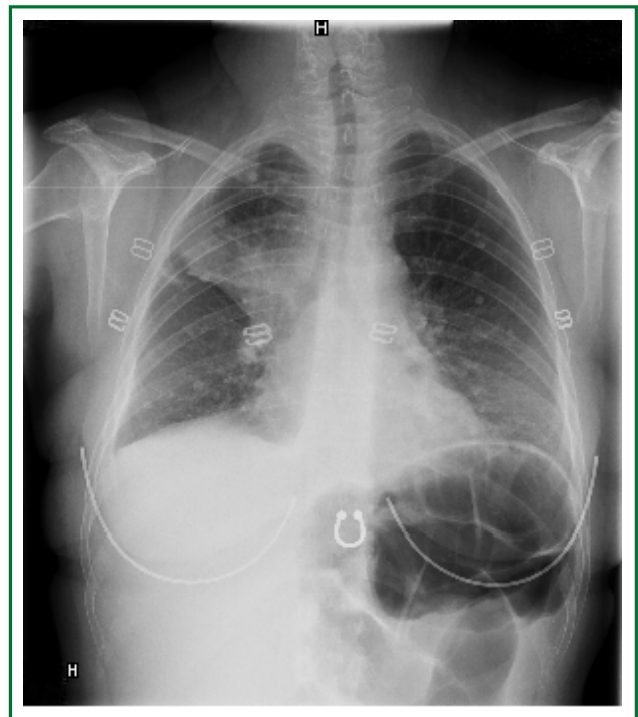


Figure 1. Chest X-ray at the diagnosis.

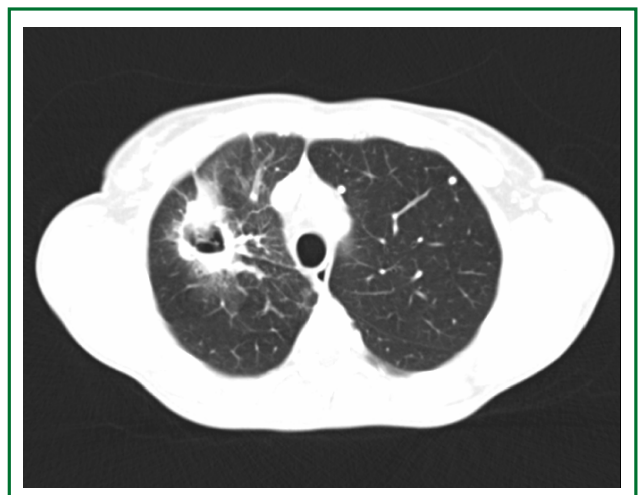


Figure 2. Cavitation lung mass in the moment of the diagnosis.

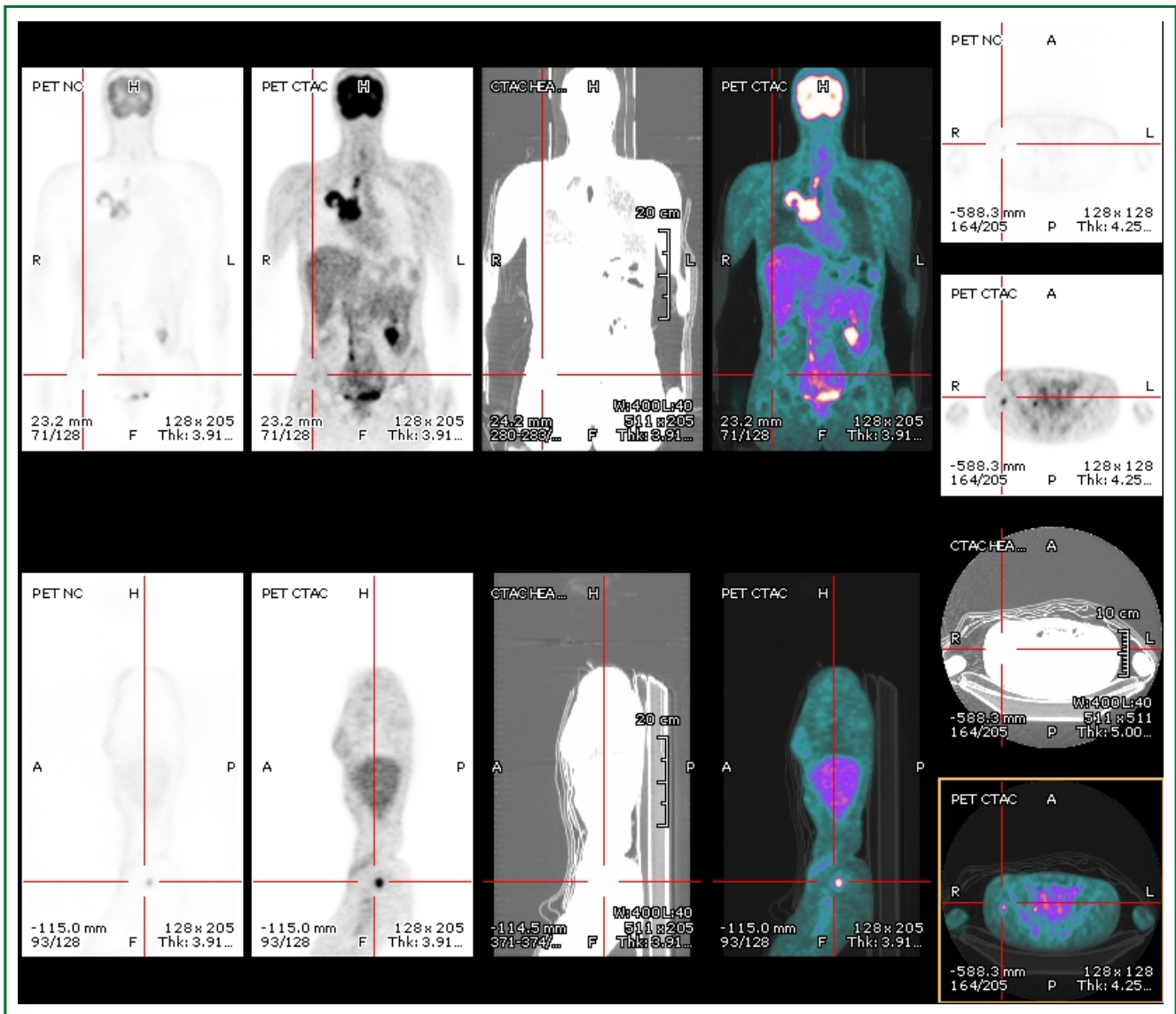


Figure 3. Pathological captation in the PET in the left medial gluteus muscle.

(Figure 3). The patient did not have any local symptoms, and the exploration was normal. Ultrasound scan revealed a nodule, and the fine-needle aspiration puncture results indicated the presence of metastatic carcinoma (Figure 4). In this case, the PET scan influenced the diagnosis by revealing metastatic disease from the beginning, instead of a locally advanced tumor as determined by CT scan.

Discussion

The change of the diagnosed of locally advanced to metastatic disease is 11% after PET is 11%, depending of the series (1).

The most typical localizations of lung metastases are the liver, brain, lung, bone and adrenal glands. In the cases of disseminated disease, muscle metastasis are rarely observed (2-4).

The real incidence rate of muscle metastasis is unknown, but it is believed from a series of autopsies to be around 0.8%. It is thought that the action of the muscle contraction, local pH and the accumulation of lactic acid and other metabolites can contribute to this phenomenon (5).

The most common form of presentation of muscle metastasis is local inflammation or pain. Muscle metastasis must be included in the differential diagnosis of oncological patients presenting with an intramuscular mass (6,7). In most of the known cases of metastasis to the muscle, lung cancer is the primary malignancy, although there are many other described origins, such as kidney, stomach, pancreas, thyroid and breast cancers (8). Our case is even more atypical because our patient was asymptomatic.

We decided to request a PET scan because the lung disease

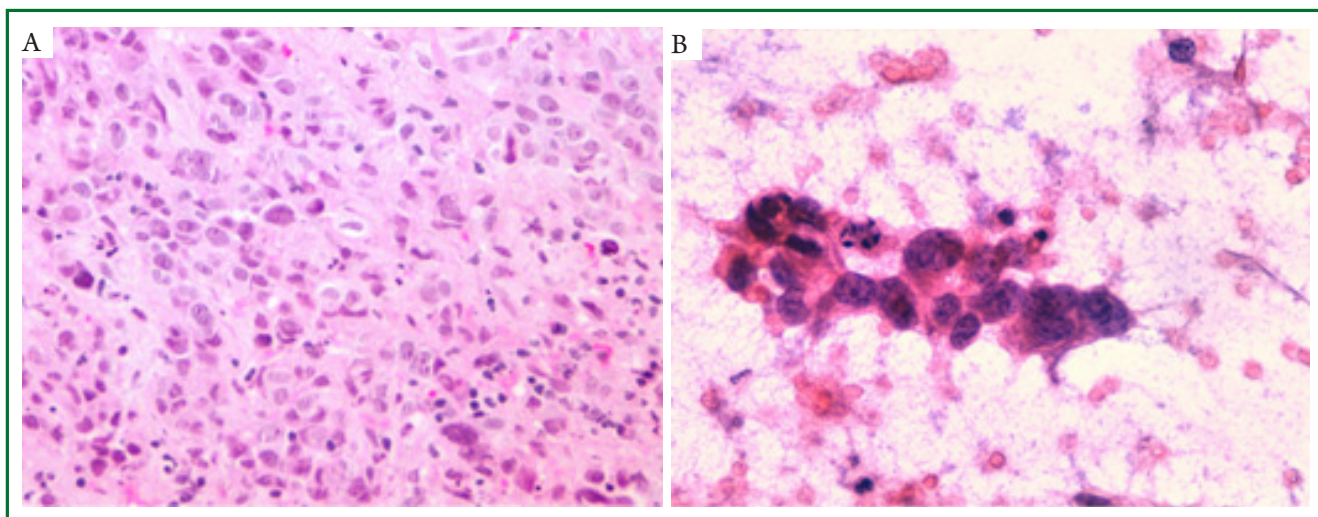


Figure 4. The fine-needle aspiration puncture results indicated the presence of metastatic carcinoma. A: Biopsy of the lung mass by bronchoscopy; B: Fine-needle aspiration puncture of the gluteus mass.

was very extensive and her clinical characteristics, such as her lost of weight. Captations in regions seemingly normal are often seen, but this case is peculiar because of the localization of the captation.

The differential diagnosis in the image test must be done with abscess and soft tissue tumors, and the diagnosis must be based on pathological anatomy.

The treatment of muscle metastasis is always palliative, involving radiotherapy, chemotherapy or metastasectomy. In most of the cases reported in the literature, patients survive less than one year from the time of the diagnosis (9).

Our case is atypical in a few aspects. It is the report of a patient diagnosed with lung cancer, with a negative extension test and a pathological captation in the left medial gluteus muscle detected by PET scan, without any clinical symptoms and with pathological anatomy indicating metastatic carcinoma.

This case supports the previous hypothesis that a PET scan is superior to a CT scan in its capacity to diagnose metastases, and this technique must therefore be considered in those patients with locally advanced disease.

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