

# Intramedullary metastases detected on 18F FDG-PET/CT imaging

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## Abstract

PET-CT imaging for initial staging, post-treatment follow-up, and re-staging are crucial in modifying the patient therapy approach in patients with lung cancer. In this case report, the role of FDG PET/CT in the demonstration of spinal cord metastasis in a patient with metastatic lung cancer is presented.

## Introduction

Spinal cord metastasis is a rare extratoracic metastatic region in lung cancer patients. 18-F-Fluorodeoxyglucose (FDG) Positron Emission Tomography/Computed Tomography (PET/CT) is usually used in lung cancer patients for staging, re-staging and treatment response. In this case report, the role of FDG PET/CT in the demonstration of spinal cord metastasis in a patient with metastatic lung cancer is presented.

## Case report

A 59-year-old male patient with metastatic lung cancer was requested PET-CT examination for re-staging. Following 6 h of fasting, while blood glucose level was 96 mg/dl, 12 mCi 18 F-FDG i.v. was injected. After 60 minutes, the patient was imaged in the 3D mode 2.3 minutes per bed from the calvarium to the proximal thigh. Obtained images were evaluated after attenuation correction with low dose nondiagnostic CT. PET-CT imaging was performed after treatment and deterioration of the clinic during treatment. PET-CT

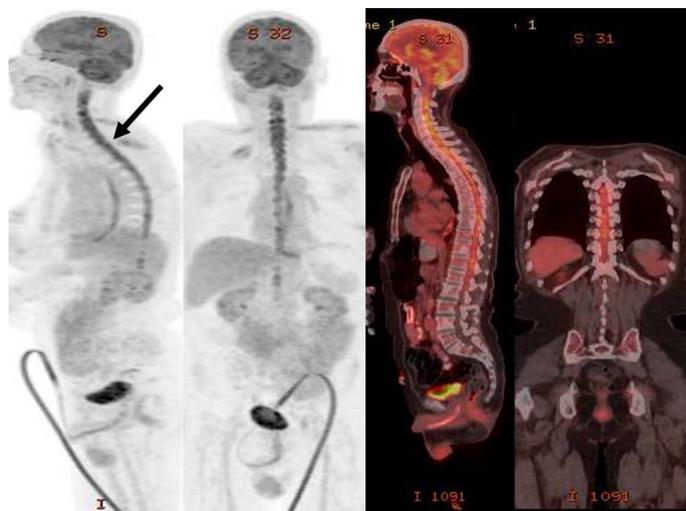
imaging revealed hypodense lesions in both cerebral hemispheres and metastatic sclerotic bone lesions, millimetric hypometabolic nodule in the right upper lobe of the lung, soft tissue mass in the left parahilum. In addition, diffuse significant increased metabolic activity (SUVmax = 8.44) consistent with spinal cord metastasis not present in previous imaging was observed (Figure 1) in medulla spinalis. Leptomeningeal spread was confirmed by MR examination after PET-CT imaging. No additional pathologic focus was detected on whole body imaging.

## Discussion

PET/CT imaging is a valuable method in restaging of non-small cell lung cancer, especially in extrathoracic surgery. PET/CT can identify about 20% of noncerebral metastatic disease not detected by conventional imaging procedures. Intramedullary metastasis is a rare entity in non-small cell lung cancer. Most intramedullary metastases are diagnosed with contrast-enhanced MRI. In literature, there are few case reports [1-5]. In a case report of neurosarcoidosis with isolated involvement of the spinal cord case the authors reported FDG PET/CT unmasking a great mimicker [6]. Leptomeningeal rare dissemination of a low-grade lumbar paraganglioma on <sup>18</sup>F-FDOPA PET/CT scanning was reported by Thomson N et. al. in a recent article [7]. Spinal cord metastasis from prostate cancer detected with <sup>68</sup>Ga-PSMA PET/CT with MRI fusion was reported by Langsteger W et al. [8]. In our case, a rare spinal cord diffuse metastasis was detected by whole body PET/CT imaging in a patient with clinical progression while under treatment.

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**Figure 1.** MIP (Maximum Intensity Projection), sagittal and coronal PET/CT fusion images demonstrated unknown spinal cord metastasis in a 59 year-old-male patient with deterioration of the clinic during treatment.

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**Received:** June 12, 2017; **Accepted:** June 28, 2017; **Published:** June 30, 2017

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