# All-in-one imaging of polymyositis and metastatic lung cancer by positron emission tomography/computed tomography

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To the Editor

In a recent issue of Acta Reumatologica Portuguesa (ARP), Fonseca JE wrote an editorial entitled "Revisiting rheumatic diseases and cancer" emphasizing the need for physicians to be adequately aware of paraneoplastic syndromes expressing the typical features of some rheumatic diseases and the continuous surveillance of patients with rheumatic diasease that is needed for the early detection of cancers[1]. In this context, we report an impressive case of paraneoplastic polymyositis in which positron emission tomography (PET)/CT was useful in detecting both the polymyositis and lung cancer.

A 68-year-old Japanese man presented with a 2--month history of proximal muscle weakness. He had no rash or arthralgia. The serum creatine kinase was 6593 U/L (normal, <170 U/L), associated with elevated aldolase (60.6 IU/L; normal, <5.9 IU/L) level. Autoimmune screening, including for anti-Jo-1 antibody, yielded negative results. Chest radiography and computed tomography (CT) of the lung revealed a nodular lesion measuring 24 mm in diameter in the left upper lung field, and transbronchial lung biopsy confirmed a histological diagnosis of adenocarcinoma. Biopsy of the left biceps muscle revealed muscle fiber necrosis and degeneration associated with an inflammatory cell infiltrate, confirming the diagnosis of polymyositis (PM) complicating lung cancer.

Interestingly, PET/CT detected increased 18F-FDG uptake not only in the lung cancer nodule and metastatic lesions in the mediastinal lymphnodes and thoracic vertebra, but also in multiple areas of the proximal muscles (Figure 1). The usefulness of 18F-FDG PET/CT in the diagnosis of an occult neoplasm in patients with PM/dermatomyositis (DM) is well established[2]. Although 18F-FDG is also known to accumulate within inflammatory cells[3], the role of 18F-FDG PET/CT in the detection of myositis is controversial. While one previous study reported that 18F-FDG PET/CT is useful for the diagnosis of PM/DM[4], another has reported the limited usefulness of this imaging modality for the diagnosis because of its low sensitivity for the detection of myositis[5]. The routine use of 18F-FDG PET/CT to detect paraneoplastic polymyositis is limited due to its high cost. However, our case report suggests that 18F-FDG PET/CT may offer an all-in-one imaging modality in some patients with paraneoplastic myositis.

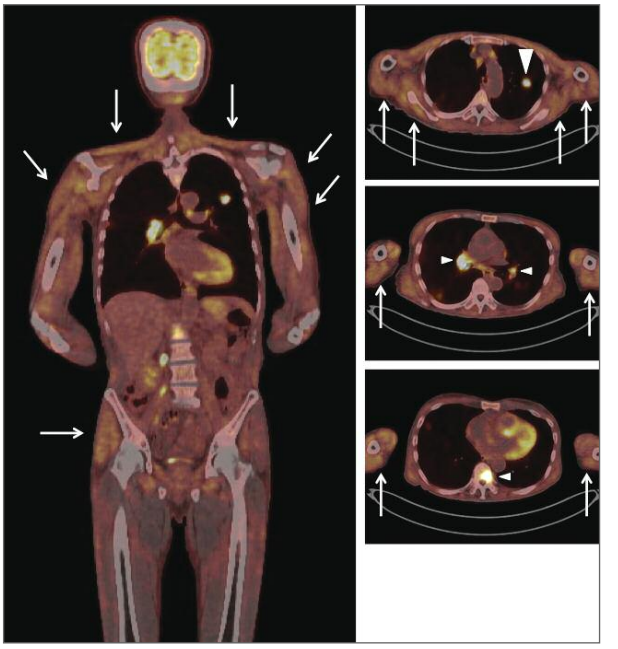

**FIGURE 1.** 18F-FDG PET/CT images showing multiple areas of increased 18F-FDG uptake in the proximal muscles (*arrows*), in a lung cancer nodule *(large arrowhead)* and in metastatic lesions in the mediastinal lymphnodes and the thoracic vertebra *(small arrowheads)*.

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4. Tanaka S, Ikeda K, Uchiyama K, et al. [18F]FDG uptake in proximal muscles assessed by PET/CT reflects both global and local muscular inflammation and provides useful information in the management of patients with polymyositis/dermatomyositis. Rheumatology (Oxford) 2013;52:1271-1278.
5. Owada T, Maezawa R, Kurasawa K, Okada H, Arai S, Fukuda T. Detection of inflammatory lesions by f-18 fluorodeoxyglucose positron emission tomography in patients with polymyositis and dermatomyositis. J Rheumatol 2012;39:1659-1665.

## AGENDA

### XXXI CONGRESSO BRASILEIRO DE REUMATOLOGIA

**Local e Data:** Belo Horizonte, Brasil, 10 a 14 de Outubro de 2014

### 2º CONGRESSO DE OSTEOGENESE IMPERFEITA

**Local e Data:** Lisboa, Portugal, 31 de Outubro a 1 de Novembro de 2014

### XXXV CURSO DE REUMATOLOGIA – CIÊNCIA NA PRÁTICA

**Local e Data:** Coimbra, Portugal, 16 a 17 de Outubro de 2014

### ewIMID

**Local e Data:** Madeira, Portugal, 5 a 7 de Novembro de 2014

### Paradigm Shift IV

**Local e Data:** Paço de Arcos, Portugal, 8 de Novembro de 2014

### 2014 ACR/ARHP ANNUAL MEETING

**Local e Data:** Boston, EUA, 14 a 19 de Novembro de 2014

### XXII JORNADAS INTERNACIONAIS DO INSTITUTO PORTUGUÊS DE REUMATOLOGIA

**Local e Data:** Lisboa, Portugal, 27 a 28 de Novembro de 2014

## ERRATA

*In:* Jacobs JW, da Silva JA. Hypermobility syndromes from the clinician's perspective: an overview. *Acta Reumatol Port.* 2014 Apr-Jun;39(2):124-136.

On page 126, in the section **LIFE-THREATING MANIFESTATIONS AND COMPLICATIONS**, the expression "EDS classic type" should have been "EDS vascular type". The error has been corrected in the PDF version of the article.