

Cardiac and Pulmonary Artery Involvement Detected by 18F-fluorodeoxyglucose Positron Emission Tomography/Computed Tomography in Large-vessel Giant Cell Arteritis

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Cardiac and pulmonary artery involvement have been only rarely described in giant cell arteritis^{1,2}. Further, the role of 18F-fluorodeoxyglucose positron emission tomography/computed tomography (FDG-PET/CT) for evaluating pulmonary artery involvement in large-vessel vasculitis has not been investigated.

The patient, a 58-year-old woman with a 4-month history of low-grade fever, asthenia, and weight loss presented to the emergency department of our hospital for syncope. Electrocardiogram showed a third-degree atrioventricular block requiring the implantation of a permanent pacemaker. Blood test revealed elevation of acute-phase reactants

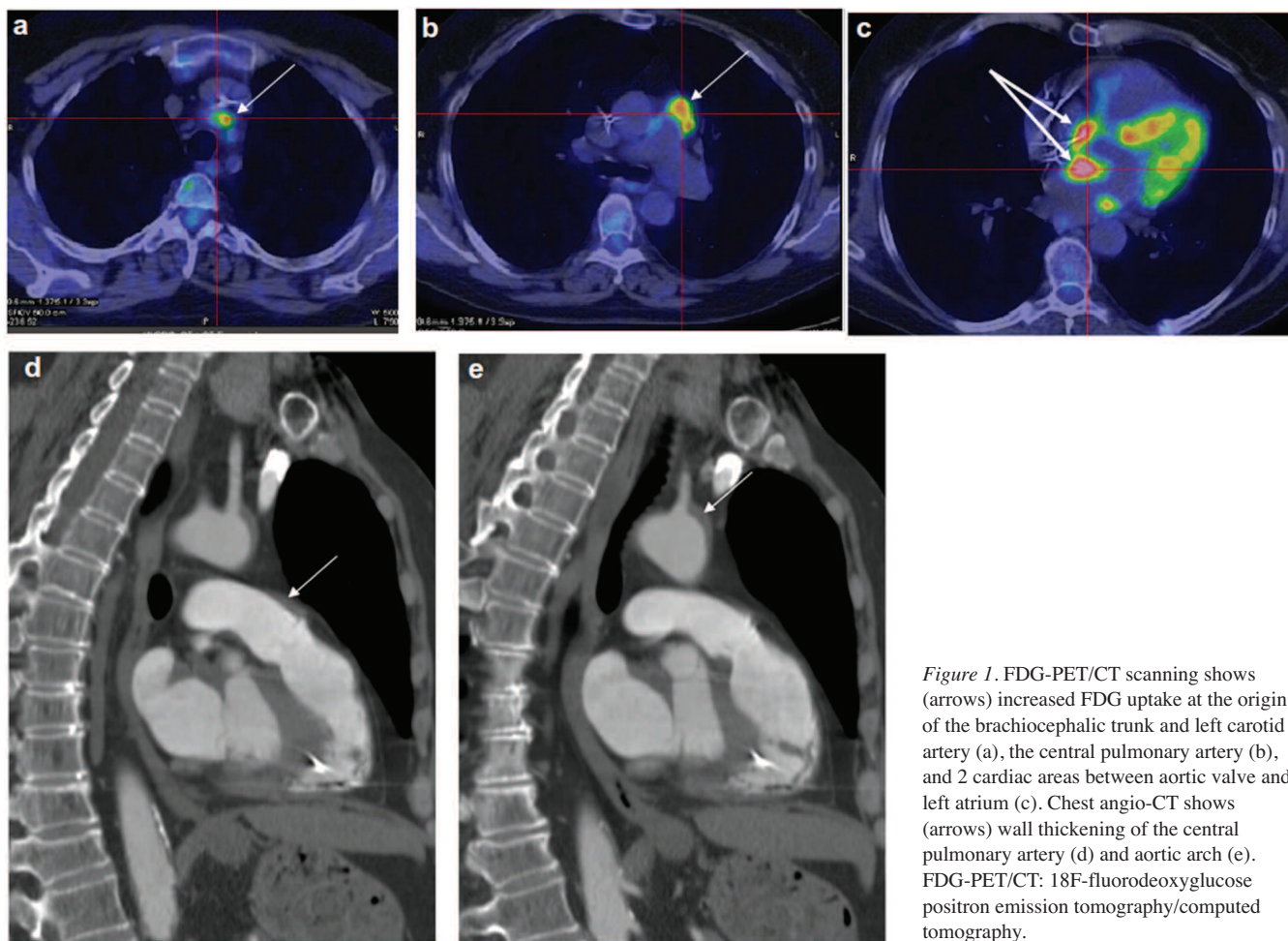


Figure 1. FDG-PET/CT scanning shows (arrows) increased FDG uptake at the origin of the brachiocephalic trunk and left carotid artery (a), the central pulmonary artery (b), and 2 cardiac areas between aortic valve and left atrium (c). Chest angio-CT shows (arrows) wall thickening of the central pulmonary artery (d) and aortic arch (e). FDG-PET/CT: 18F-fluorodeoxyglucose positron emission tomography/computed tomography.

(C-reactive protein 100 mg/l, erythrocyte sedimentation rate 113 mm/1st h) and anemia of chronic disease (hemoglobin 10 g/dl). An initial diagnostic workup for fever of unknown origin including serologic tests, blood and urine cultures, QuantiFERON-TB gold, chest radiograph, abdominal and pelvic ultrasound, and echocardiogram were negative. A whole-body FDG-PET/CT scanning and a chest angio-CT showed inflammatory involvement of the aortic arch, the origin of the epiaortic vessels, the pulmonary artery, and 2 cardiac areas (Figure 1). These findings were consistent with large-vessel giant cell arteritis with cardiac and pulmonary artery involvement³. Cardiac magnetic resonance imaging was not performed because of recent permanent pacemaker implantation. High-dose glucocorticoid was started (prednisone 1 mg/kg/day) along with interleukin 6 inhibitor (tocilizumab 162 mg/week), with remission of symptoms and normalization of blood test.

This case demonstrates the utility of FDG-PET/CT to detect cardiac and pulmonary artery inflammation in patients with large-vessel vasculitis.

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