

^{18}F -FDG PET/CT image of pericardial inflammatory myofibroblastic tumor

Abstract

Pericardial inflammatory myofibroblastic tumor (IMT) is very rare. Herein, we report fluorine-18-fluorodeoxyglucose (^{18}F -FDG) positron emission tomography/computed tomography (PET/CT) findings of pericardial IMT in a 57-year-old woman. On conventional image, it presented as a pericardial mass with heterogeneous delay enhancement. On ^{18}F -FDG PET/CT image, this lesion had mild ^{18}F -FDG uptake with a maximum standardized uptake value (SUVmax) of 1.84. The postoperative pathology supported a diagnosis of IMT. Our case hints us that IMT should be regarded as a differential diagnosis when we meet a solitary pericardial mass with ^{18}F -FDG uptake.

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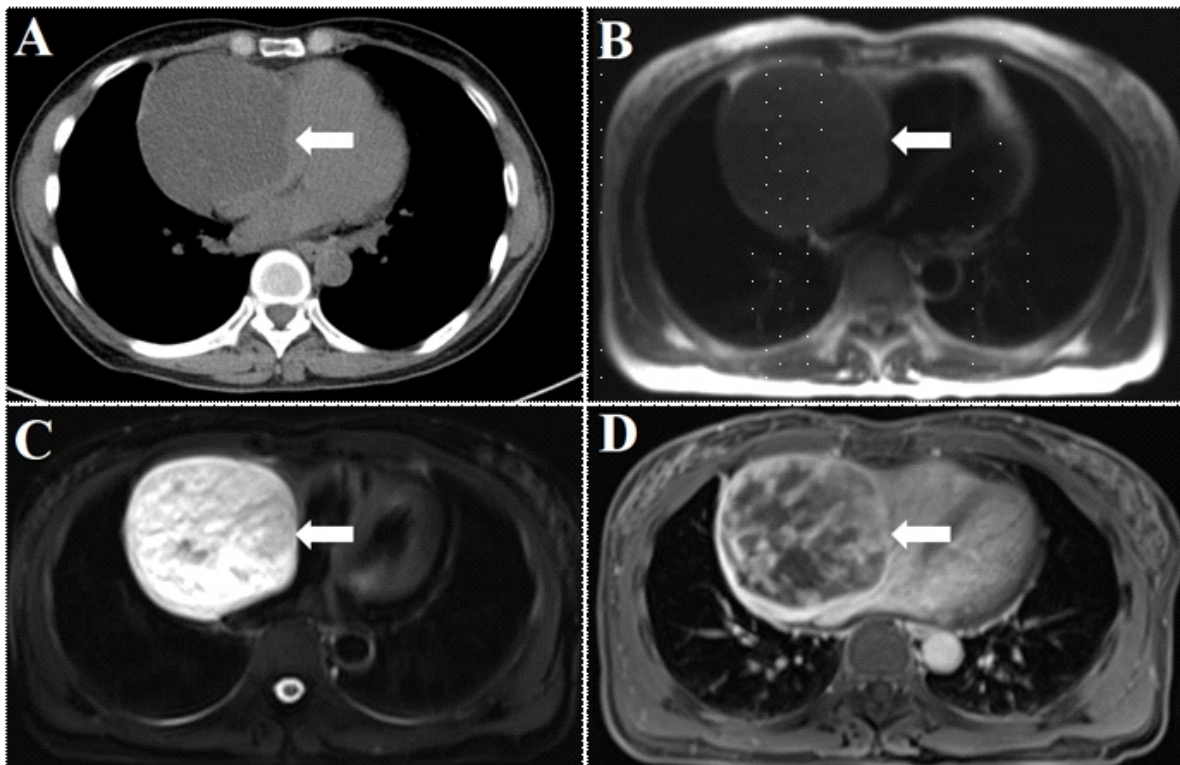


Figure 1. A 57-year-old woman complained of heart fatigue and tightness for four months. The blood examination and tumor marker had no obvious abnormalities. Chest CT indicated a pericardial mass with a low density (A). Cardiac magnetic resonance imaging (MRI) showed this lesion had low signal on T1WI image (B) and heterogeneous high signal on T2WI image (C). Also, it had obvious delay enhancement (D). A malignancy was suspected.

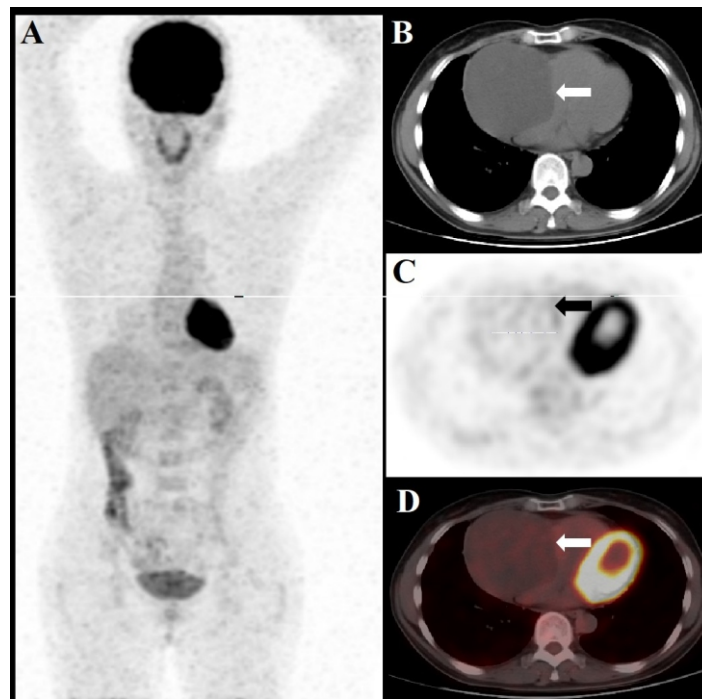


Figure 2. Thus, ^{18}F -FDG PET/CT was performed for staging. The maximum intensity projection (MIP) image (A) and axial CT (B), PET (C), fusion image (D) showed a solitary pericardial mass with a size of 88 x 85mm, which had mild ^{18}F -FDG uptake with an SUVmax of 1.84. No other abnormal tracer uptake was noted. Then, this patient underwent surgical resection. The postoperative pathology indicated a spindle cell tumor with myxoid mesenchymal degeneration, small blood vessels and lymphocyte infiltration, which supported a diagnosis of inflammatory myofibroblastic tumor (IMT). Inflammatory myofibroblastic tumor is a spindle cell neoplasm with low malignant potential, which may locate in different parts of the body. On conventional image, IMT usually presents as a soft tissue mass with heterogeneous delay enhancement [1]. On ^{18}F -FDG PET/CT image, ^{18}F -FDG uptake in IMT varied from low to high ^{18}F -FDG uptake [2]. The most common sites of IMT are lung and visceral adipose tissue [3, 4]. However, ^{18}F -FDG PET/CT image of pericardial IMT is very rare. This patient in our case had low ^{18}F -FDG uptake, which may be due to low tumor cellularity within lesion. Solitary pericardial mass should be consider possibility of mesothelioma [5, 6], metastasis [7], synovial sarcoma [8], solitary fibrous tumor [9], mucinous adenocarcinoma [10], lymphangiohemangioma [11]. Our case hints us that IMT should be regarded as a differential diagnosis when we meet a solitary pericardial mass with ^{18}F -FDG uptake.

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Shuang Deng BS, Liu Xiao MD, Yuhao Li MD

Department of Nuclear Medicine, West China Hospital of Sichuan University, No. 37.Guoxue Alley, 610041 Chengdu, Sichuan province, P.R. China

Corresponding author: Yuhao Li, MD. Department of Nuclear Medicine, West China Hospital of Sichuan University, No. 37.Guoxue Alley, 610041 Chengdu, Sichuan province, P.R. China. E-mail: tsflyh@126.com