



Occasionally increased ^{18}F -FDG uptake in apical hypertrophic cardiomyopathy on serial follow-up PET/CT

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CASE PRESENTATION

^{18}F -FDG PET is a well-established functional imaging technique for diagnostic oncological imaging for a variety of malignancies and their systemic involvement. We present a 60-year-old man with retroperitoneal liposarcoma who underwent ^{18}F -FDG PET/CT to determine any systemic involvement. Initial ^{18}F -FDG transaxial PET (Figure 1A) and fused PET/CT (Figure 1B) images show faint heterogeneous uptake in the myocardium consistent with physiological uptake. After 5 years, follow-up ^{18}F -FDG transaxial PET (Figure 1C) and fused PET/CT (Figure 1D) images show occasional small nodular faint uptake in the apex, with a maximal SUV of 2.44 (arrows in Figure 1C and D). After two years, follow-up ^{18}F -FDG transaxial PET (Figure 1E) and fused PET/CT (Figure 1F) images demonstrate focal intense uptake in the apex, with a maximal SUV of 7.43 (arrows in Figure 1E and F). Transthoracic echocardiographic images in 2-chamber view at end-systole (Figure 2A) and end-diastole (Figure 2B) show apical hypertrophy and a spade-like shaped left ventricle cavity. Electrocardiogram (Figure 2C) shows atrial fibrillation

rhythm and deep inverted T wave in II, III, aVF, and V3-V6, which had not been observed at the time of the initial PET. According to these findings, he was diagnosed with apical hypertrophic cardiomyopathy.

The increasing clinical utility of whole-body ^{18}F -FDG PET/CT for diagnosing the systemic involvement of malignancies may increase the detection of occasional abnormal ^{18}F -FDG uptake in the myocardium. This may indicate the presence of cardiac tumors including metastasis or inflammatory diseases such as cardiac sarcoidosis.¹ Previous studies indicated the usefulness of ^{18}F -FDG PET in hypertrophic cardiomyopathy patients.²⁻⁵ Apical hypertrophic cardiomyopathy is a rare variant of hypertrophic cardiomyopathy.^{6,7} It is characterized by primary hypertrophy localized exclusively in the apex of the left ventricle. Yamamoto et al. also reported a patient with apical hypertrophic cardiomyopathy, with occasionally increased ^{18}F -FDG uptake in the apex on whole-body ^{18}F -FDG PET/CT.⁸ The present case demonstrated increasingly intense uptake in the apex on serial follow-up ^{18}F -FDG PET/CT imaging.

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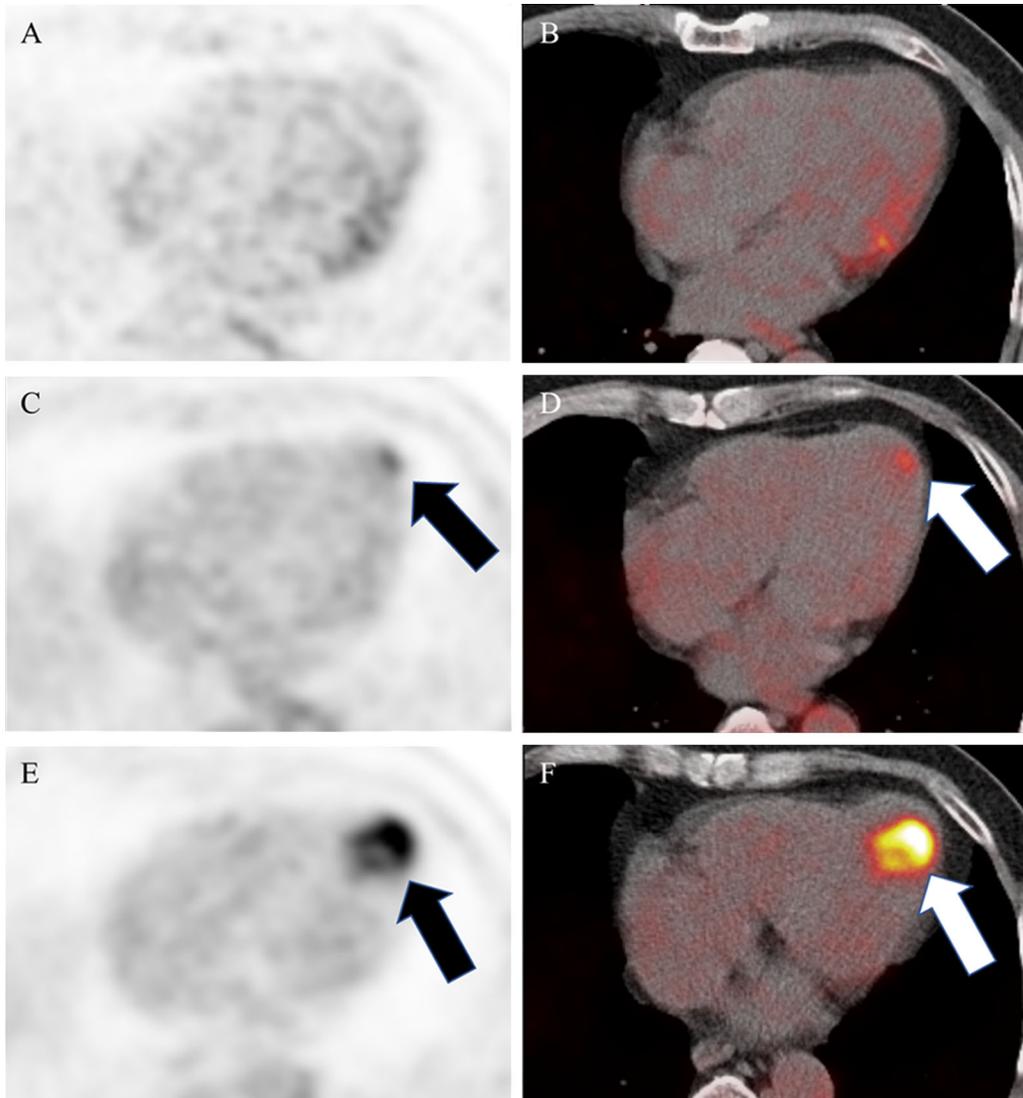


Figure 1. ^{18}F -FDG PET and ^{18}F -FDG PET/CT images.

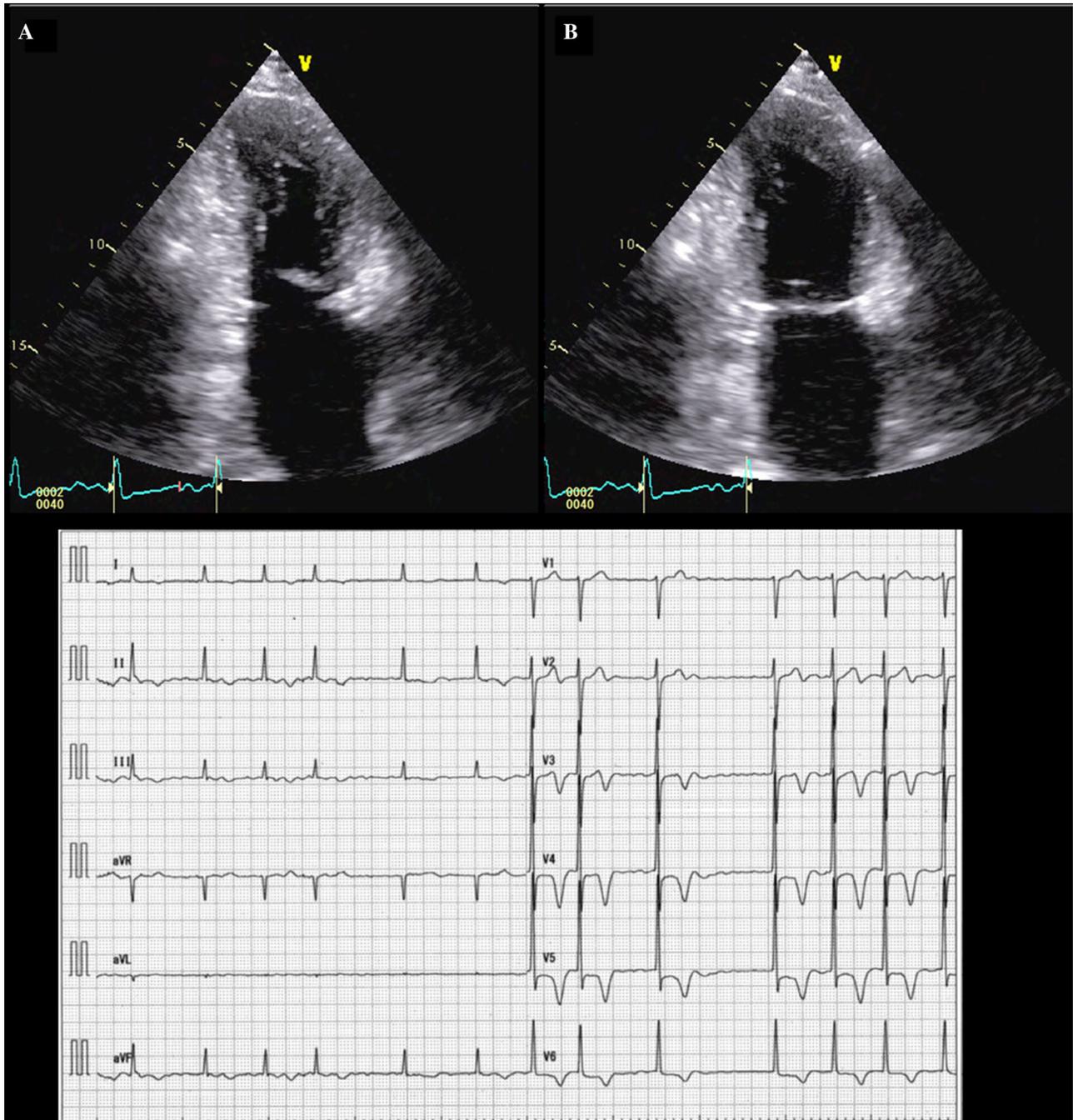


Figure 2. Transthoracic echocardiographic images and electrocardiogram.

Disclosures

None of the authors have any conflicts of interest.

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