Anti-inflammatory effect of statin in coronary aneurysms late after Kawasaki disease

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CASE PRESENTATION

Kawasaki disease (KD) is a systemic vasculitis syndrome of unknown etiology.[1] Coronary artery lesions constitute the most critical complication of KD and can cause acute coronary syndrome. It is generally thought that inflammatory cell responses may regulate the coronary artery lesions. However, little evidence showed vascular inflammation in adult patients with a history of KD and coronary artery lesions.

We have recently reported the increased inflammatory activity within a coronary artery aneurysm (CAA) in left anterior descending artery (LAD) using 18F-fluorodeoxyglucose-positron emission tomography (FDG-PET) in a 40-year-old male patient, who had KD at 4 months of age (Figure 1A, red arrowheads).[2] A CAA in right coronary artery was occluded at the age of 4 (Figure 1D, arrow). Coronary angiography at the age of 40 indicated the presence of intra-aneurysmal stenosis in both LAD and left circumflex (LCx) (Figure 1E, arrows), which were derived as non-flow limiting luminal stenosis from fractional flow reserve. Subsequently, we have reported that 2-year statin therapy (pitavastatin, 2 mg/day) attenuated the CAA inflammation in LAD in the same patient using serial FDG-PET imaging (Figure 1B, white arrowheads).[3] The statin therapy was discontinued at the request of the patient after the second FDG-PET scan. More than 3 years after the cessation of statin therapy, he was transferred to our hospital due to worsening dyspnea on effort. Selective coronary angiography of the left coronary artery revealed the occlusion of LAD at proximal site and the progression of LCx stenosis at distal site (Figure 1F, arrows). FDG-PET combined with coronary computed tomography angiography demonstrated intense FDG uptake within the CCA in LAD (Figure 1C, red arrowheads). The patient underwent a triple coronary artery bypass grafting on-pump; right internal mammary artery (IMA) to the LAD, left IMA to the posterolateral branch, and gastroepiploic artery to the posterior descending artery (Figure 1G; Supplementary Data). Our findings indicated that vascular inflammation could develop coronary lesions late after KD and that statin has an anti-inflammatory effect, which may prevent the coronary progression after KD.

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The authors of this article have provided a video file, available for download at SpringerLink. Search for the article DOI on SpringerLink.com.

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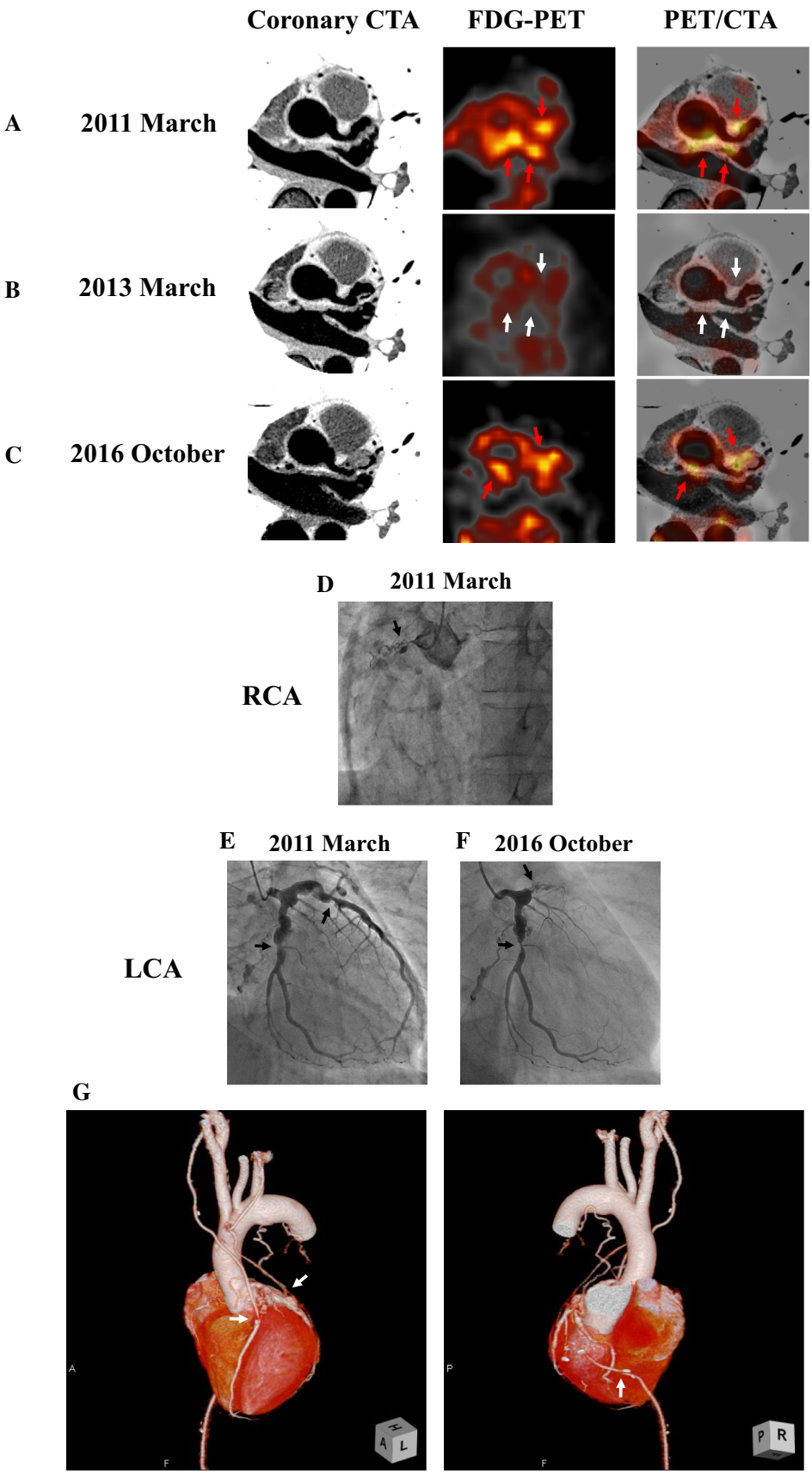
Coronary CTA
FDG-PET
PET/CTA
A
2011 March
B
2013 March
C
2016 October
D
2011 March
RCA
E
2011 March
F
2016 October
LCA
G

◀ **Figure 1. A–C** Serial coronary CTA, FDG-PET, and FDG-PET/CTA images. CTA, coronary computed tomography angiography; FDG-PET, 18F-fluorodeoxyglucose-positron emission tomography. **D–F** Selective coronary angiography of the right coronary artery and left coronary artery on March, 2011 and October, 2016. **G** Coronary CTA after a triple coronary artery bypass grafting (white arrows).

Disclosures

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