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CASE IMAGE IN CARDIOVASCULAR ULTRASOUND

Mitral annulus disjunction detected by left ventriculography

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A 78-year-old man came to our hospital with a complaint of chest pain. Coronary angiography showed a significant stenosis in the left anterior descending artery (LAD) [Fig. 1A, B] and left ventriculography (LVG) revealed an aneurysm-like structure in the basal inferior wall during systole [Fig. 1C, D]. The LAD stenosis was successfully treated with a drug-eluting stent whereas there were no specific findings to suspect cardiac sarcoidosis or other cardiomyopathies that could cause a left ventricular aneurysm. Transthoracic echocardiography depicted a detachment of the left atrial wall-mitral valve annulus junction from the left ventricular myocardium in long-axis view, which was thought to be mitral annulus disjunction (MAD) [Fig. 1E]. MAD cannot be accurately assessed during diastole with the opening mitral valve [Fig. 1F]. In this case, LVG clearly showed an aneurysm-like structure during systole, which was characteristic of MAD. MAD is often documented by echocardiography, but sometimes difficult to diagnosis. However, MAD is related to mitral valve prolapse and ventricular arrythmia, and accurate diagnosis is needed [1]. According to this case, MAD presents with characteristic morphology on LVG, which may contribute to the diagnosis in addition to echocardiography. If LVG shows an aneurysm-like structure in the basal inferior wall, it is necessary to review echocardiography and follow-up for arrhythmias.

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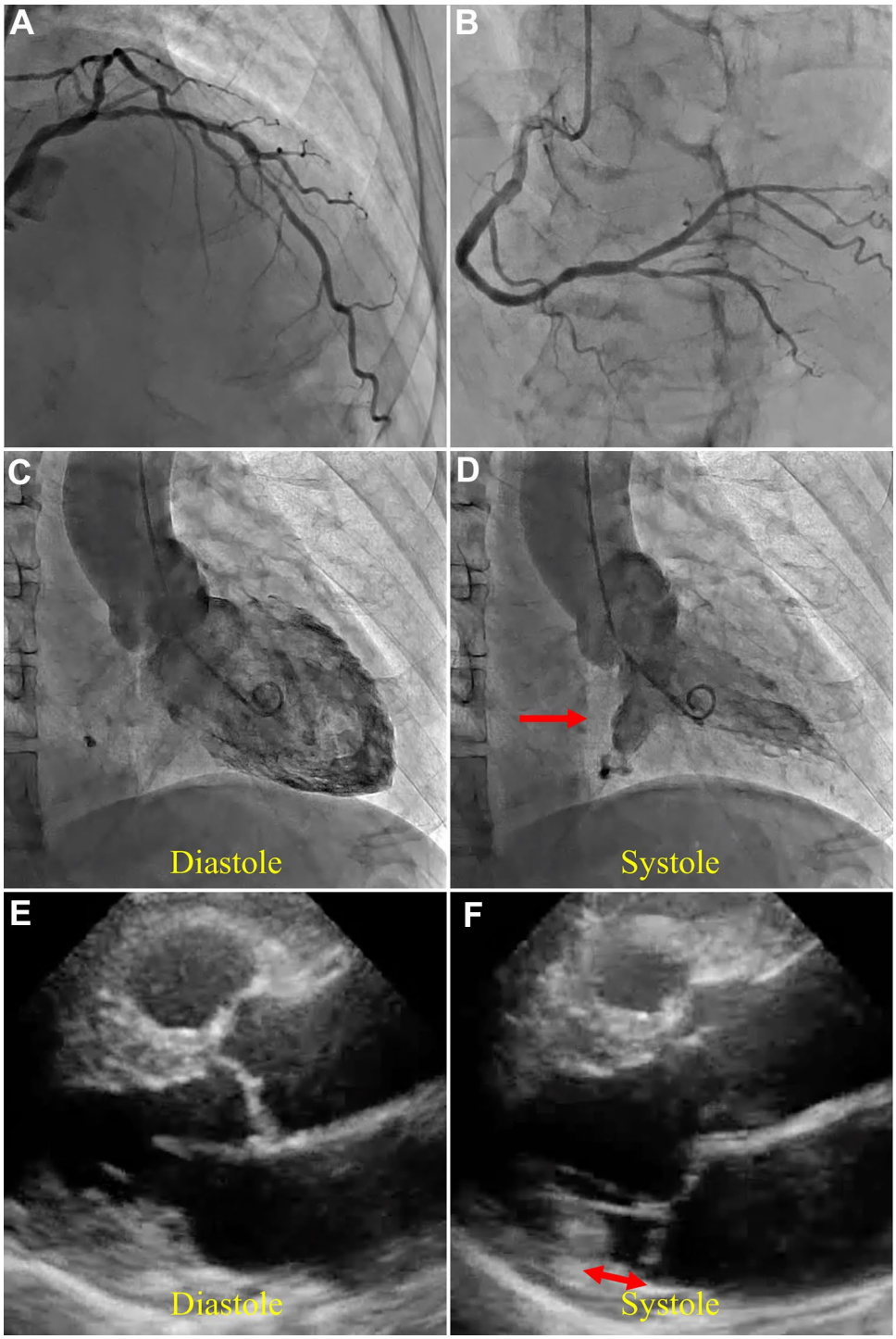

Fig. 1 **A** Initial coronary angiogram (CAG) demonstrating significant stenosis in the proximal left anterior descending artery (LAD). **B** CAG demonstrating no significant stenosis in the right coronary artery. **C** Left ventriculography (LVG) during diastole. **D** LVG during systole. (red arrow: aneurysm-like structure). **E** Transthoracic echocardiography in long-axis view during systole. **F** Transthoracic echocardiography in long-axis view during diastole

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Data availability Data sharing is not applicable to this article as no datasets were generated or analyzed during the current study.

Declarations

Conflict of interest Dr. Masahiko Asami has received speaker fees from Canon Medical Systems. Dr. Masaaki Nakase, Jun Tanaka, Kazuyuki Yahagi, Kota Komiyama, Jiro Aoki, and Kengo Tanabe declare that they have no conflict of interests.

Human rights statements and informed consent All procedures followed were in accordance with the ethical standards of the responsible

committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1964 and later versions. Informed consent was obtained from the patient for being included in the study.

Reference

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