

Multimodality Cardiac Imaging of a Noninfectious Pseudoaneurysm of the Mitral–Aortic Intervalvular Fibrosa

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A patient who had undergone closure of the perimembranous ventricular septal defect and aortic valve replacement for bicuspid aortic valve with a mechanical prosthesis was being admitted to our department. He was afebrile, blood cultures were negative and there was no sign of endocarditis. Transthoracic echocardiogram showed a normally functioning aortic prosthesis with a aortic root by the occurrence of systolic expansion and diastolic collapse (Fig. 1A; Video 1 in the online-only Data Supplement). Transesophageal echocardiogram revealed a pulsatile, thin-walled echoluent space, protruding into the left atrium which was defected in the mitral-aortic intervalvular fibrosa (MAIF) (Fig. 1B, C, and E; Video 2 in the online-only Data Supplement). Color Doppler examination revealed space flow from the left ventricular outflow tract in systole and this space was emptied during diastole (Fig. 1D, E, and F; Video 3 in the online-only Data Supplement). These findings were consistent with the pseudoaneurysm of the MAIF (PA-MAIF). Multidetector computed tomography (MDCT) delineated a pulsatile PA-MAIF below the aortic valve annulus (Fig. 2A). Cardiac magnetic resonance imaging clearly showed localized protrusions of the MAIF with diastolic collapse and pulsing in systole with contrasting insides (Fig. 2B, C, and D; Video 4 in the online-only Data Supplement).

In our case, bicuspid aortic valves and dehiscence of sutures along the anastomotic line are the possible explanations of this complication, due to congenital weaknesses in the area of the MAIF.^{1,2)}

Although transthoracic and transesophageal echocardiograms are the initial diagnostic tools for PA-MAIF, due to their relatively

posterior location and complex anatomy, the MRI and MDCT are selected as the diagnostic technique for prompt diagnosis and timely institution of treatment.³⁾ With such techniques, a further evaluation of adjoining pseudoaneurysm is feasible, and planning of the proper surgical intervention⁴⁾ is enabled.

Supplementary Materials

The online-only Data Supplement is available with this article at <http://dx.doi.org/10.4070/kcj.2013.43.11.782>.

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• The authors have no financial conflicts of interest.

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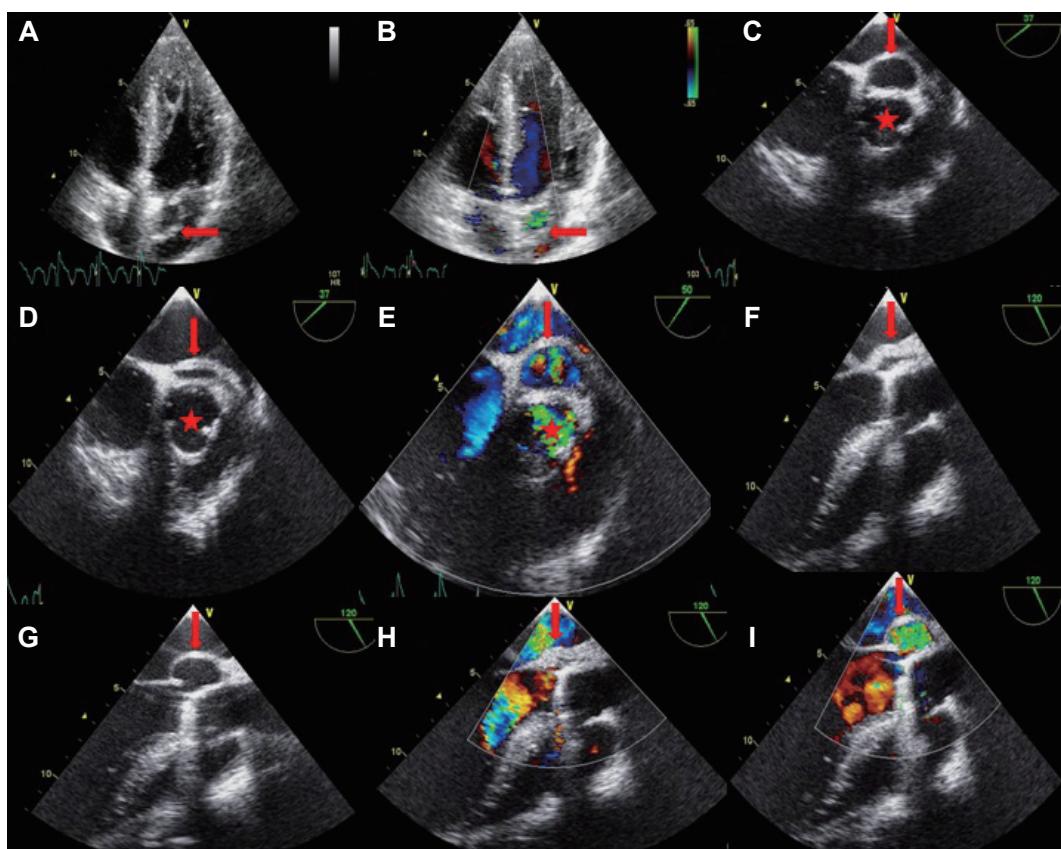


Fig. 1.

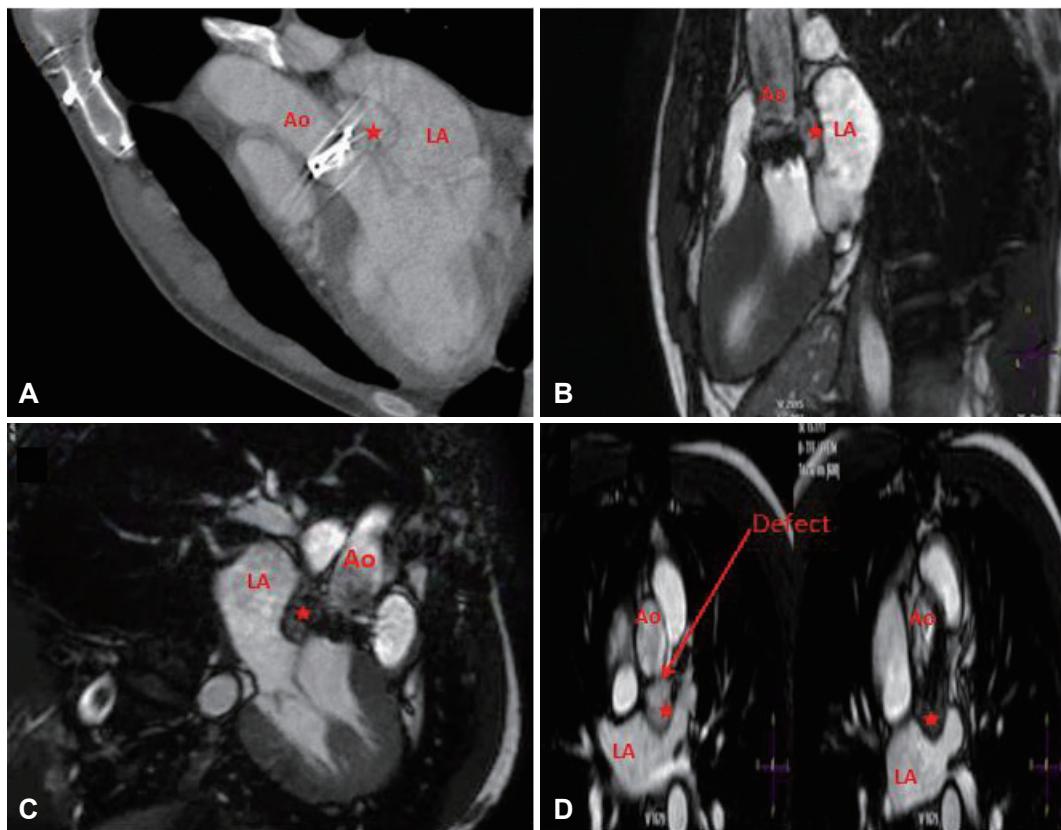


Fig. 2.