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IMAGES IN STRUCTURAL HEART DISEASE

Enterococcus Faecalis Infective Endocarditis Following Percutaneous Edge-to-Edge Mitral Valve Repair

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An 85-year-old woman presented with severe degenerative native mitral regurgitation (MR) in the setting of preserved left ventricular ejection fraction (LVEF) of 65%. Transesophageal echocardiography (TEE) demonstrated a flail P2 scallop and she subsequently underwent percutaneous mitral valve repair with MitraClip®. Four months later, she presented with fatigue, chills, and dyspnea. Blood cultures grew *Enterococcus faecalis* sensitive to ampicillin. Repeat TEE demonstrated a 1.2 cm × 0.6 cm mobile echodensity associated with the left atrial aspect of the MitraClip® consistent with vegetation with recurrence of severe MR. Given the patient's advanced age, comorbidities, and poor functional class, surgical mitral valve replacement (MVR) was not deemed appropriate. The patient exhibited rapid clinical decline and expired shortly thereafter. A second case involves a 57-year-old man with severe degenerative native valve MR who underwent percutaneous mitral valve repair with placement of two MitraClips®. Two months later, he presented with acute decompensated heart failure. Blood cultures grew *Enteroccus faecalis* and a TEE demonstrated a new mobile echodensity on the atrial aspect of the P3 scallop and involving the medial MitraClip® consistent with vegetation. There was new, severe posteriorly directed MR with two jets. The patient was treated with 6 weeks of IV antibiotics. Several months later he had stable NYHA Class II–III symptoms with a repeat transthoracic echocardiogram showing improvement of MR and no evidence of vegetation. The first case of infective endocarditis with MitraClip® was described in 2011.[1] Only a few other cases of this complication have been published since. To our knowledge, these two cases are the first documented cases of *Enterococcus faecalis* mitral valve endocarditis associated with MitraClip®.

Disclosure statement

Mathew Williams is a consultant for and received research funding from Medtronic; Muhamed Saric is a member of a Philips and Medtronic speakers bureau and a member of Siemens advisory board. The other authors have nothing to disclose.

Supplemental videos (available online)

Video 1: Corresponds to Figure 1, Panels E and F. It demonstrates a vegetation (arrow) on the atrial side of the MitraClip® resulting in recurrence of severe mitral regurgitation. LA, left atrium; LV, left ventricle.
Video 2: Corresponds to Figure 2, Panels E & F. 2D TEE demonstrates a vegetation (arrow) on the atrial side of the MitraClip® resulting in recurrence of severe mitral regurgitation. LA, left atrium; LAA, left atrial appendage; LV, left ventricle.
Video 3: Corresponds to Figure 2, Panels E & F. 3D TEE demonstrates a vegetation (arrow) on the atrial side of the MitraClip® resulting in recurrence of severe mitral regurgitation. AV, aortic valve; LAA, left atrial appendage; MV, mitral valve.

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Supplemental data for this article can be accessed on the publisher's website.

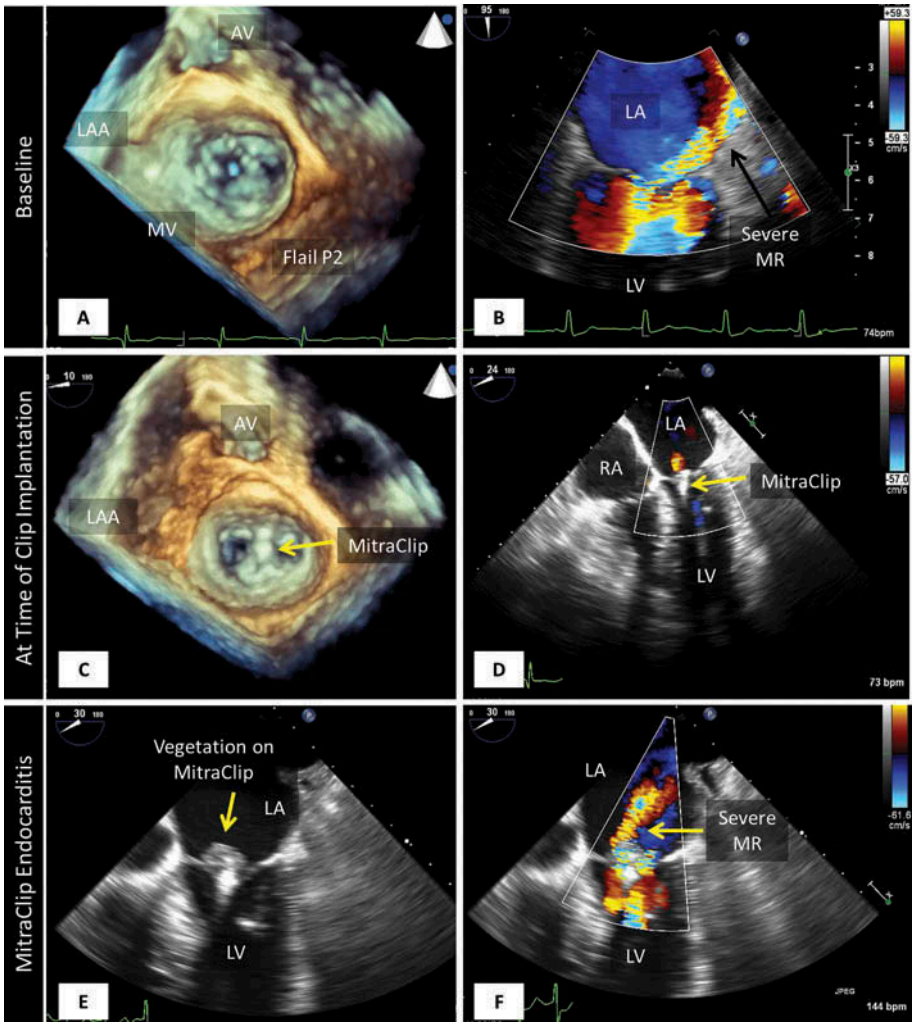

Figure 1. Case 1. *Baseline*: Panel A: 3D TEE image of the mitral valve from the surgical view showing a flail P2 scallop. Panel B shows the severe anteriorly directed mitral regurgitant jet. *At time of clip implantation*: Panels C and D show the MitraClip® implanted in the A2-P2 position with only trivial residual MR. *Mitraclip® Endocarditis*: Panels E and F show the vegetation on the atrial side of the MitraClip® with recurrence of severe mitral regurgitation.
Abbreviations: AV, aortic valve; LA, left atrium; LAA, left atrial appendage; LV, left ventricle; MV, mitral valve; MR, mitral regurgitation; RA, right atrium.

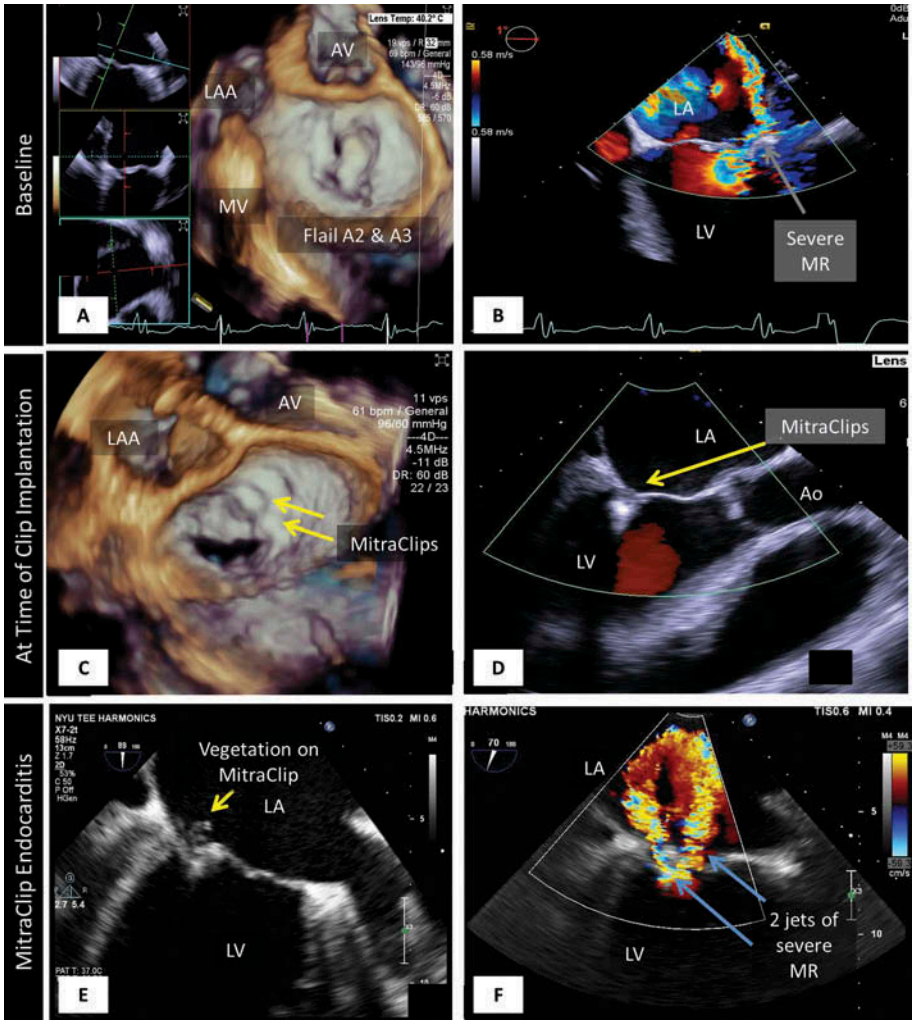

Figure 2. Case 2. *Baseline*: Panel A: 3D TEE image of the mitral valve from the surgical view showing flail A2 and A3 scallops. Panel B shows the severe posteriorly directed mitral regurgitant jet. *At time of clip implantation*: Panels C and D show the two MitraClips® implanted with no residual MR. *Mitraclip® Endocarditis*: Panels E and F show the vegetation on the atrial side of the MitraClips® with recurrence of severe mitral regurgitation.
Abbreviations: Ao, ascending aorta, AV, aortic valve; LA, left atrium; LAA, left atrial appendage; LV, left ventricle; MV, mitral valve; MR, mitral regurgitation.