Mitral Valve Aneurysm Due to Severe Aortic Valve Regurgitation

Tung H. Cai, MD; Joe M. Moody, Jr, MD; Edward Y. Sako, MD, PhD

A 33-year-old man presented to the hospital with shortness of breath and chest pain. He was subsequently diagnosed with *Streptococcus mitis* endocarditis involving the aortic valve. The initial echocardiogram revealed moderate aortic valve regurgitation and a normal mitral valve without regurgitation. The patient was treated with afterload reduction and antibiotics. Blood cultures were negative within 2 days after initiation of antibiotics. He returned to the hospital 1 month later with worsening symptoms, and a repeat echocardiogram showed worsening aortic valve regurgitation. A mitral valve aneurysm was also visualized, with moderate mitral valve regurgitation. The aneurysm was located on the anterior leaflet near the septal commissure and was due to regurgitant blood flow from the aortic valve. Because of worsening of aortic valve regurgitation and refractory symptoms, the patient was referred for surgery. The aortic valve was replaced with a No. 23 St Jude mechanical prosthesis. The mitral valve aneurysm was resected and the defect in the anterior leaflet primarily repaired. A No. 30 Baxter annuloplasty ring was also placed. Pathological evaluation of the aneurysm revealed chronic inflammation without evidence of active endocarditis. The patient recovered uneventfully and was discharged home with anticoagulation.

Figure 1. Initial transesophageal echocardiography showing intact mitral valve. LA indicates left atrium; LV, left ventricle.
Figure 2. Transesophageal echocardiography at second presentation revealing aneurysm in anterior leaflet. MVA indicates mitral valve aneurysm; other abbreviations as in Figure 1.

Figure 3. Color Doppler of Figure 2 showing regurgitant aortic insufficiency jet hitting mitral valve. Abbreviations as in previous figures.
Figure 4. Intraoperative photograph of mitral valve with aneurysm (MVA).

Figure 5. Intraoperative photograph of mitral valve after repair.
Figure 6. Intraoperative TEE showing repaired mitral valve with annuloplasty ring in place. Abbreviations as in Figure 1.
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