CARDIAC MRI DEMONSTRATES SEVERE PARAVALVULAR AORTIC REGURGITATION

Kamran A. Shaikh, M.D.; Mahesh Ramchandani, M.D.; Dipan J. Shah, M.D.

Methodist DeBakey Heart & Vascular Center, The Methodist Hospital, Houston, Texas

Aortic valve replacement with bioprosthesis. A 43-year-old man who had undergone aortic valve replacement with a bioprosthesis presents with worsening heart failure symptoms. Cardiac MRI revealed dehiscence along the right and noncoronary cusps, with associated severe paravalvular aortic insufficiency (regurgitant volume: 93 mL; regurgitant fraction: 53%). Still frames of peak systole and end diastole (Figures 1, 2) show extensive rocking motion of the bioprosthesis throughout the cardiac cycle. Figure 2 also shows clear discontinuity of the bioprosthesis with the aortic annulus. Images submitted by Kamran Shaikh, M.D., Dipan J. Shah, M.D., and Mahesh Ramchandani, M.D.

Figure 1. Short-axis views of a bio-prosthetic aortic valve in peak systole and end diastole showing excessive movement of the prosthesis during the cardiac cycle (arrows). (To access a video of this online, visit www.debakeyheartcenter.com/journal/video.)

Figure 2. Apical long-axis views of a bioprosthetic aortic valve in peak systole and end diastole, again showing rocking motion of the prosthesis (dashed red lines) causing severe aortic insufficiency. Also shown is complete disconnection of the prosthesis and annulus (arrow). (To access a video of this online, visit www.debakeyheartcenter.com/journal/video.)