A 43-year-old man was admitted to the coronary care unit because of recurrent syncope. His medical history included pulmonic valve angioplasty at age 9 years, mechanical mitral valve replacement because of severe mitral regurgitation caused by congenital atrioventricular canal, and pacemaker implantation because of complete atrioventricular block. On admission he was orthopneic, his blood pressure was 78/45 mmHg, and his pulse was 72 beats per minute, irregular. On auscultation, lungs were clear and there were irregular cardiac sounds of mechanical mitral prosthesis. There were no signs of peripheral edema. ECG showed slow atrial fibrillation with intermittent ventricular pacing. International normalized ratio was in high therapeutic range, at 4.5. Echo examination showed intermittent opening of the mitral valve 1:2. This was confirmed by continuous wave Doppler, M-mode echo, and color M-mode echo (Figure) with mildly elevated gradient 20/8 mmHg. Cine fluoroscopy showed intermittent opening of the mitral prosthesis (online-only Data Supplement Movie I; Bjork-Shiley mono-leaflet tilting disk).

The patient underwent surgery. Massive calcified pannus covered the valve and interfered with the opening of the prosthesis.

Intermittent opening of prosthetic mitral valve is rare1–4 and occurs with mono-leaflet tilting disk prosthesis as in our case, 10 to 23 years after initial surgery; in our case it was 31 years after mitral valve replacement. The international normalized ratio is usually in the therapeutic range. Surgical exploration reveals pannus that interferes with valvular function and usually needs replacement of the prosthesis. In our case the pannus was successfully and completely removed from the prosthetic valve. Intermittent opening of mitral valve prosthesis may be easily missed, because the gradient on the prosthesis may be near normal. Cine fluoroscopy is very helpful in these cases, but accurate echo examination with recording of several sequential beats remains an irreplaceable technique.

Disclosures

None.

References


Figure. A, Continuous wave Doppler, B, M-mode echo, and C, Color M-mode. All figures show intermittent opening of the mitral valve on every second beat 1:2.
Recurrent Syncope 31 Years After Mitral Valve Replacement
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Circulation. 2013;127:e507-e508
doi: 10.1161/CIRCULATIONAHA.112.153155
Circulation is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
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Print ISSN: 0009-7322. Online ISSN: 1524-4539

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://circ.ahajournals.org/content/127/12/e507

Data Supplement (unedited) at:
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