

Images in
Cardiovascular Disease



Acquired Left Ventricular Gerbode's Defect after Mitral Valve Replacement

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Conflict of Interest

The authors have no financial conflicts of
interest.

Gerbode's defect is rare, and the associated left ventricle (LV) to right atrium (RA) shunts are often misdiagnosed as tricuspid regurgitation, pulmonary hypertension or Valsalva aneurysm rupture.^{1,2)} Congenital defects typically appear as indirect and infravalvular types. However, iatrogenic defects, like in this case, are observed in the membranous part of the ventricular septum above the tricuspid valve (supravalvular type).³⁾ We report a case of acquired Gerbode's defect after mitral valve replacement. A 59-year-old woman was diagnosed with severe eccentric mitral regurgitation by prolapse of mitral valve A3 & P3, and mitral valve replacement was the selected course of treatment. There was no significant stenosis on coronary computed tomography but severe calcification of the mitral valve was observed (**Figure 1**). During surgery, a 31-mm prosthetic valve was placed on the left atrium because due to the risk of LV rupture related to 4 cm of heavy calcification. During weaning from cardiopulmonary bypass (CPB), shunt flow, which appeared as a ventricular septal defect, was observed below the mitral valve on transesophageal echocardiography. When viewed from various angles, it was identified as LV to RA shunt, and a myocardial defect was also observed (**Figure 2, Movie 1, 2**). After re-CPB, an atrial rupture was identified in the Koch triangle. Calcification of annulus was completely removed and a 29-mm valve was reinserted. Inevitably, the coronary sinus roof was torn and reconstructed. A permanent pacemaker was inserted due to complete AV block. On echocardiography two weeks after surgery, the patient has shown improvement in LV function, and the prosthetic valve is functioning well. Tricuspid regurgitation remains minimal, as it was preoperatively.

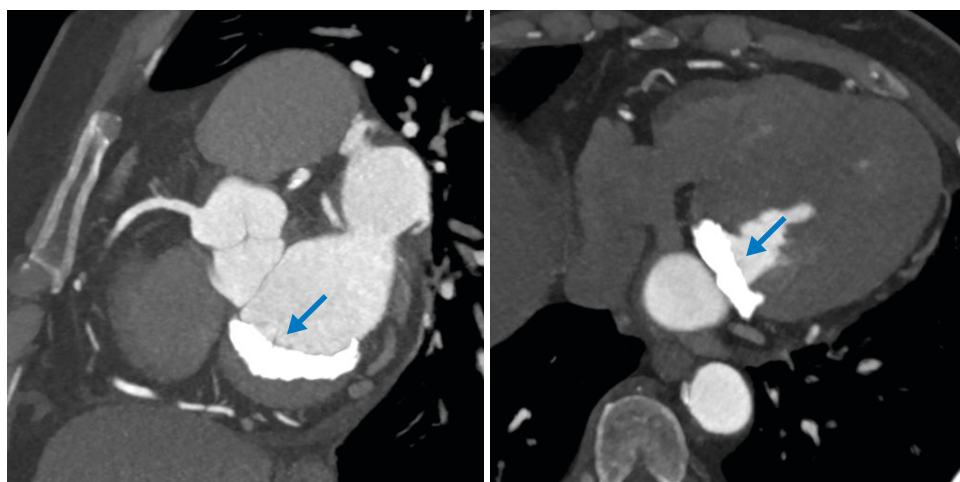


Figure 1. Severe calcification of the mitral valve was found on coronary-computed tomography (blue arrow: mitral annular calcification).

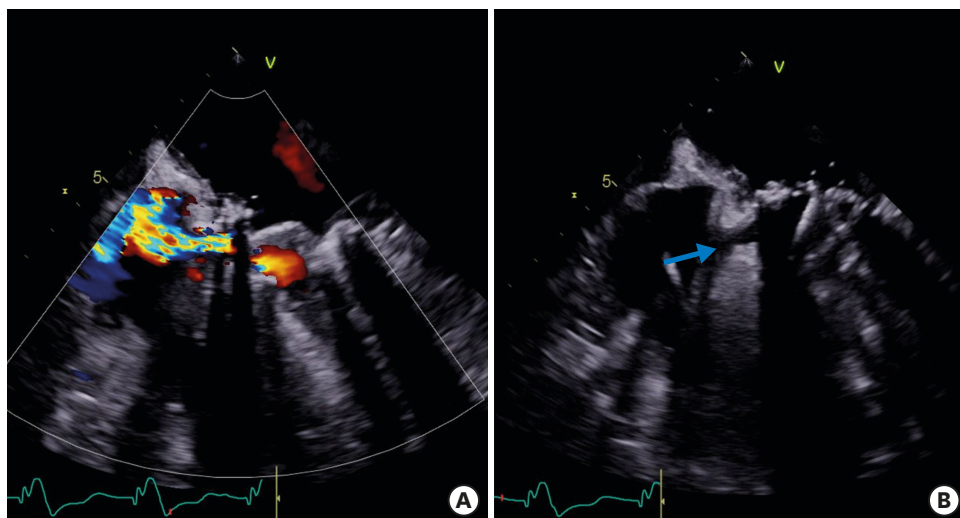


Figure 2. Transesophageal echocardiogram (four-chamber view). (A) Color flow Doppler image showing systolic flow from the left ventricle to the right atrium. (B) The defect is shown on 2D imaging (blue arrow: Gerbode's defect).

SUPPLEMENTARY MATERIALS

Movie 1

[Click here to view](#)

Movie 2

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