Left atrial to left ventricle bypass for mitral valve stenosis

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A 56-year-old man with radiation-induced heart disease presented with New York Heart Association class IV dyspnea due to severe calcific mitral valve stenosis (mean gradient, 16 mm Hg) (Figure 1, A). Twelve years before presentation, the patient underwent coronary artery bypass grafting, and 8 years later, he underwent transcatheter aortic valve implantation.

To relieve mitral valve obstruction, the patient underwent left atrial to left ventricle bypass with a valved conduit. Because of patent bypass grafts and extensive aortic calcification (Figure 1, B), the operation was performed through a left thoracotomy. During cardiopulmonary bypass with induced ventricular fibrillation, the proximal attachment of a 24-mm Dacron graft was sutured to the left atrium at the junction of the inferior pulmonary vein (Figure 1, C). A 23-mm bioprosthesis was sewn into the graft, which

Left atrial to left ventricle bypass using a valved conduit.

Central Message

Left atrial to left ventricle bypass with a valved conduit is a surgical option for patients with severe calcific mitral valve stenosis.

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was then anastomosed to a ventriculotomy on the lateral apical area of the left ventricle (Figure 1, D). He was discharged 10 days after surgery in satisfactory condition.

FIGURE 1. Pre- and postoperative computed tomography images of the patient. A, Severe mitral valve calcification. B, Calcified aorta. C and D, Post-operative 3-dimensional reconstruction showing attachments of the left atrial to left ventricle graft.