Acute Prosthetic Mitral Valve Failure

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FIG. 1 Chest x-ray showing valve strut in apex of left ventricle (arrow).

A 41-year-old black male with a history of aortic valve and mitral valve replacement in 1982 with Bjork-Shiley prostheses presented complaining of abdominal pain and vomiting. He was found to be tachypneic, tachycardiac, and hypotensive. Chest x-ray (Fig. 1) demonstrated evidence of prior sternotomy, pulmonary edema, and enlarged cardiac silhouette with a double density compatible with left atrial enlargement, and a metallic object that looked like a prosthetic valve strut (arrow) in the cardiac apex. Emergent echocardiography demonstrated normal left ventricular size and function. A foreign body was seen moving freely within the cavity of the left ventricle (Fig.

FIG. 2 Two-dimensional echocardiogram with valve disc in a transverse position across the mid-left ventricular cavity (arrow).

FIG. 3 Pathology specimens of retrieved valve components.

2). No disc was seen within the mitral prosthesis. The left atrium was massively dilated and there was severe mitral regurgitation with reversal of flow in the pulmonary veins. This study confirmed the presence of mitral prosthesis strut fracture. The patient underwent emergency operation. The valve disc and strut were retrieved from the left ventricle (Fig. 3) and a St. Jude mitral prosthesis was implanted. The postoperative course was complicated by renal failure, coagulopathy, and ischemic encephalopathy. The patient died four days after surgery.

Reference

Van de Graaf Y, deWaard F, van Herwerden LA, DeFaun J: Risk of strut fracture of Bjork-Shiley valves. *Lancet* 1992;339:257-261

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