

Acute Severe Mitral Regurgitation due to Unusual Detachment of Bioprosthetic Valve Leaflet

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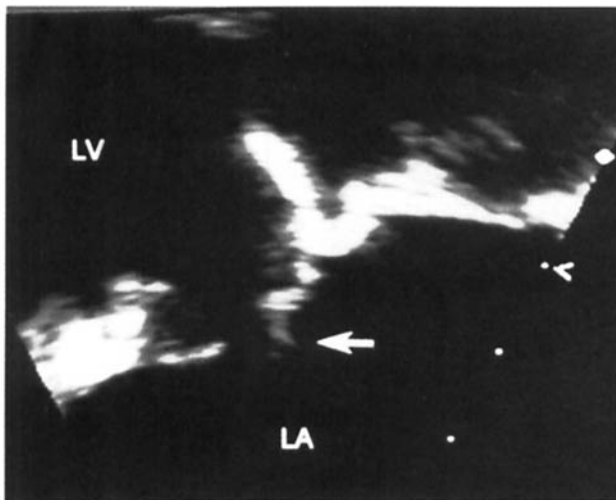


FIG. 1 Enlarged multiplane transesophageal view shows flail motion of the posteromedial bioprosthetic valve leaflet. LA = left atrium, LV = left ventricle.

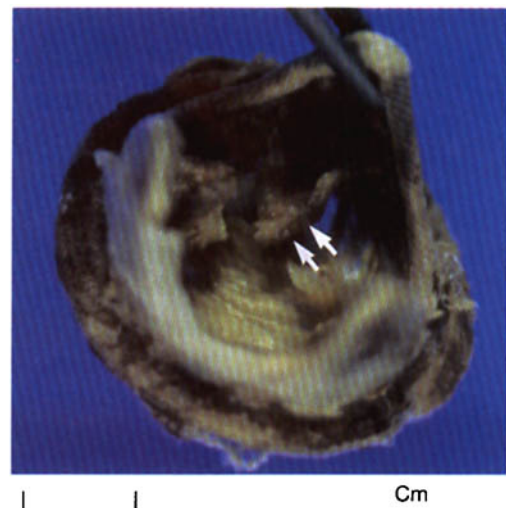


FIG. 2 Operative finding revealed detachment of the posterior valve leaflet from the valve strut (arrows), which resulted in prolapse of valve leaflet and severe regurgitation.

A 67-year-old man whose mitral valve had been replaced with a Carpentier-Edward bioprosthetic valve 12 years previously was well until 2 days before admission when severe shortness of breath prompted him to visit the hospital. Physical examination revealed an acutely ill appearance and tachypnea with grade 3 pansystolic murmur at the apex, radiating to the axilla. The electrocardiogram revealed atrial fibrillation with rapid ventricular response. Chest x-ray revealed severe bilater-

al pulmonary edema. Acute mitral regurgitation with pulmonary edema was suspected and subsequent echocardiographic evaluation was performed. Transesophageal echocardiography revealed a flail motion of the posteromedial cusp of the bioprosthetic valve with severe regurgitation (Fig. 1). Subsequent mitral valve replacement was performed. At surgery, detachment of the posterior leaflet of the bioprosthetic valve from the valve strut was observed. This resulted in prolapse of the posterior bioprosthetic valve leaflet and severe mitral regurgitation (Fig. 2). However, there was no evidence of tear of the cusp, which has been considered the most common cause of bioprosthetic valve failure. The patient subsequently recovered and was uneventfully discharged several days later.

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Naqvi TZ, Siegel RJ, Buchbinder NA, Fishbein MC: Clinical, echocardiographic, and pathologic features of aortic wall dehiscence of porcine bioprosthetic valves: A cause of rapidly progressive mitral regurgitation and heart failure after bioprosthetic mitral valve replacement. *J Am Soc Echocardiogr* 1998;11:720-728