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Unusual Disc Dislodgement of a Björk-Shiley Valve after Long-term Implantation

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Conflict of Interest

The authors have no financial conflicts of interest.

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A 40-year-old male was admitted to the cardiac care unit (CCU) due to severe pneumonia associated with unstable hemodynamics. Meanwhile, a grade 3–4 systolic murmur was heard at the left lower sternal border. Tracing his history back, he had undergone mitral valve replacement with a Björk-Shiley convexoconcave prosthetic valve (single tilting disc mechanical valve) 25 years before this admission. The reason that he received open heart surgery was infective endocarditis which resulted in mitral valve perforation and systemic embolism. After valve surgery, he continued taking an anticoagulant (warfarin 2.5 mg per day) and was regularly followed up at an outpatient department. Just 6 months before this episode, routine transesophageal echocardiography (TEE) examination still showed the mechanical valve profile was normal and the prosthetic disc worked very well (arrow, **Figure 1A**). However, the TEE performed at CCU on this admission demonstrated severe mitral regurgitation with absence of the valvular disc acoustic shadow (**Figure 1B**). Disc dislodgement was therefore highly suspected and emergency surgery was conducted. During the operation, the disc was found to have escaped from the strut of the Björk-Shiley prosthetic valve (**Figure 1C**) and was being pumped out of the left ventricle. A new bi-leaflet mechanical valve (St. Jude Medical™ Hemodynamic Plus prosthesis; St. Jude Medical, St. Paul, MN, USA) was then placed and the patient's hemodynamics were fully restored after the operation.

Dislodgement of a disc occurring in patients with long-term Björk-Shiley prosthetic valve implantation has never been reported. For such a critical event, alert awareness with prompt TEE confirmation and immediate valvular surgery is the only way to ensure patient survival.

Figure 1. The transesophageal echocardiographic images (A and B) and surgical removal of mechanical valve (C).