

Free floating mitral paravalvular leak closure device

A 32-year-old woman complaining of dyspnea was admitted to our hospital. She had a past medical history of mechanical aortic valve replacement (AVR) and mitral valve replacement (MVR) which were followed by mitral posterolateral and septal paravalvular leak (PVL) device closures (AMPLATZER Vascular Plus III 10 mm×3 mm and AMPLATZER Vascular Plus III 10 mm×3 mm, respectively). She was followed up for residual moderate mitral PVL after device closures. Vital signs were stable, except for tachycardia. The electrocardiogram showed sinus tachycardia and right bundle branch block. Physical examination revealed an apical holosystolic 3/6 grade murmur radiating to the left axilla together with a mechanical click sound, and examination of the lungs revealed bibasilar crackles. Transthoracic echocardiography showed free floating PVL closure device between the left atrium and ventricle, which was dislodged from the medial mitral annulus. Fortunately, the mechanical aortic valve prevented systemic embolization of the device (Videos 1, 2). The patient was treated with a fifth redo-surgery with device removal and repair of PVL with suture. At the 6-month follow-up, the patient has remained asymptomatic, and TTE revealed the mechanical mitral prosthesis functioning normally with no PVL.

PVL closure device embolization usually occurs soon after the procedure, and late embolization of the PVL closure device has rarely been reported (1). Repeat surgery to repair the PVL is associated with significant mortality and morbidity (2). However, we demonstrated that complicated PVL owing to late embolization of closure device can be successfully treated with redo-surgery even in high-risk patients.

Informed consent: Written informed consent was obtained from the patient for publication of the case report and the accompanying videos and images.

Video 1. Free floating paravalvular leak closure device passing through the annulus to the left ventricle

Video 2. Free floating paravalvular leak closure device swirling posterior to the mechanical mitral valve

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