

Images in
Cardiovascular Medicine



Vascular Stent Migration to Right Ventricle

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A 62-year-old woman with diabetes mellitus, hypertrophic cardiomyopathy, and end-stage renal disease was undergoing chronic hemodialysis via a right radio-cephalic arteriovenous graft. She required hospitalization due to fever, dyspnea, and right shoulder pain. One year earlier, she had undergone balloon angioplasty, followed by deployment of an axillary vein stent (6×80 mm) due to central stenosis. Upon admission, computed tomography revealed right shoulder and psoas muscle abscesses and a pulmonary thromboembolism. Coincidentally, during the work-up, a metallic foreign body was detected in the right ventricle (RV), suggestive of a migrated vascular stent (**Figure 1A-C**). Transthoracic echocardiography revealed a migrated vascular stent in the RV cavity, impacted between the tricuspid valve (TV) septal leaflet and the RV apex (**Figure 1D**). After antibiotic treatment of the abscesses, the stent was successfully removed, without TV or RV injury, through the right atrium (**Figure 2A and B**).

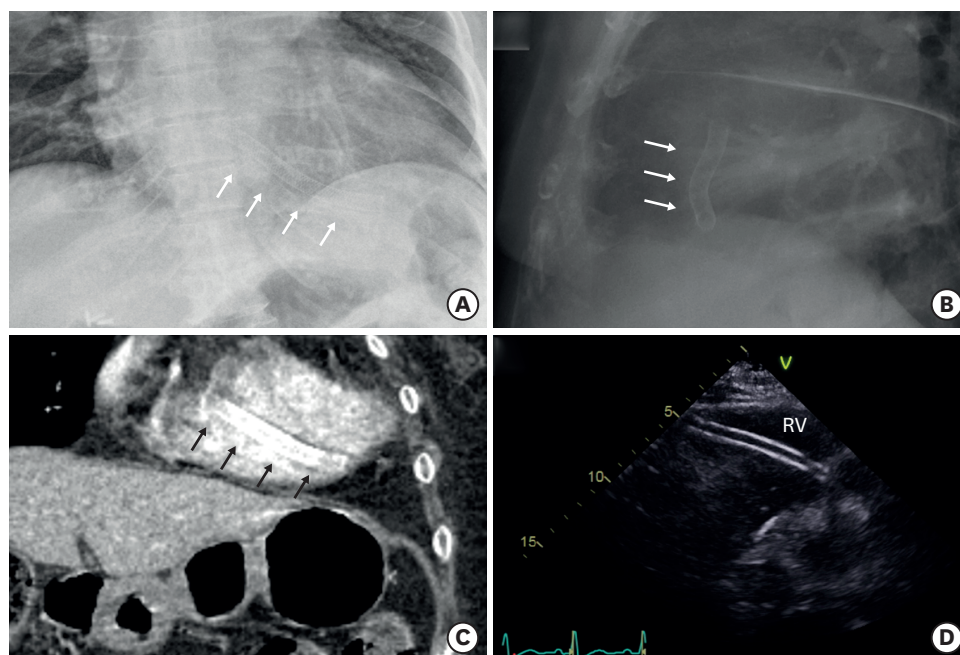


Figure 1. (A, B) Anterior and lateral view of chest X-ray showing the stent presents within the anterior inferior chest (arrows). (C) Coronal view of computed tomography showing the migrated stent in the RV (arrows). (D) Transthoracic echocardiography showed a migrated vascular stent in the RV. RV = right ventricle.

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Conflict of Interest

The authors have no financial conflicts of interest.

Author Contributions

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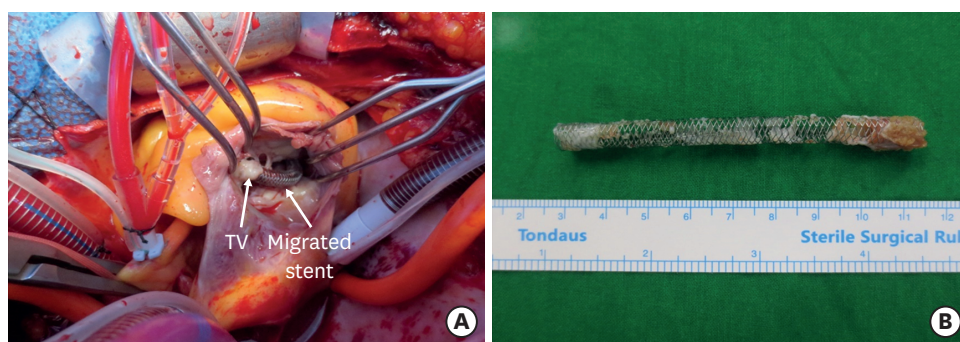


Figure 2. (A) The right atrium was opened, and the stent was attached with TV in the right ventricle. (B) An extracted stent. TV = tricuspid valve.

Despite postoperative complications of pancreatitis and ischemic colitis, she was discharged 2 weeks after the operation. A migrated venous stent could be moved unimpeded up to the right atrium, ventricle, and pulmonary arteries because of the direction of venous blood flow as well as the gradual increase in the vein diameter to the heart.¹⁾ However, stent-related factors (too small stent or inadequate ballooning), variations in the diameters of central vein with respiration and cardiac impulse, or excess shoulder movement resulting in stent detachment from the axillary vein might have been the cause of stent migration in this case. A retrospective image review suggested that the stent may have migrated within 2 months after its insertion; stent migration was identified late because serious acute complications, such as cardiogenic shock, RV rupture, TV injury, and arrhythmia, did not occur. Although stent migration is a rare complication of stent placement that can occur at the time of placement or later, a vascular stent inserted into a central vein stenotic lesion should be periodically monitored for migration.²⁾

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