IMAGE

The one that got away: A leadless pacemaker embolizes to the lungs

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The patient is a 74-year-old man with a history of persistent atrial fibrillation with symptomatic episodes of bradycardia and elected to proceed with placement of a single-chamber leadless pacemaker (Nanostim, St. Jude Medical, Inc., St. Paul, MN) as part of a clinical trial[1]. The pacemaker was placed successfully, and the patient did well overnight. The next morning it was noted that pacemaker spikes were no longer noted on telemetry, and a posterior-anterior and lateral chest radiograph was taken (Figure 1). The leadless pacemaker had dislodged from the right ventricle and embolized to a tertiary branch of the right pulmonary artery. The patient was entirely asymptomatic from embolization, as there was no occlusion of the pulmonary artery (Online Supplemental Figure 1). Using a gooseneck snare, from the femoral venous approach, the pacemaker was retrieved quickly and without any other complications (Online Supplemental Video 1).

Leadless pacemakers have recently been approved by the Food and Drug Administration for patients with an indication for single-chamber, ventricular-only pacing.[2] Pacemakers are inserted via a femoral venous approach, advanced through the inferior vena cava into the right atrium, across the tricuspid valve and are placed near the right ventricular apex. In comparison to a traditional pacemaker, the leadless device does not occlude the subclavian vein, has a significantly lower infection rate, is associated with improved cosmesis, and has a longer battery life. The most feared complication is dislodgment of the device. Even with a dislodgment, however, patients can be asymptomatic and the device can be quickly and safely retrieved.

Appendix

Supplementary data

Supplementary data are available in the online version of this article at http://dx.doi.org/10.1016/j.hrthm.2016.09.006

References

1. A safety and effectiveness trial for a leadless pacemaker system (the LEADLESS II Study). St. Jude Medical, St. Paul, MN. FDA.gov. Accessed Sept 28, 2016.
2. FDA.gov. Accessed September 28, 2016.

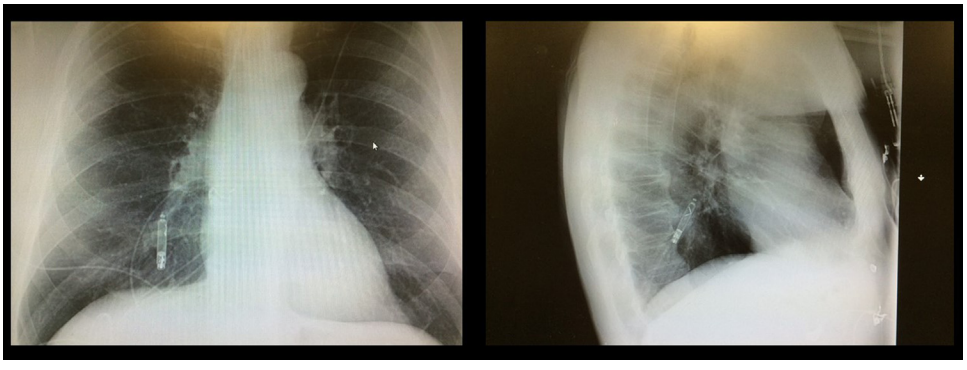

Figure 1.

KEYWORDS Leadless pacemakers; Pacemakers; Embolization
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