

ported this anomaly in the literature (2, 3). This anomaly is clinically significant because the LAD provides a large area of the ventricles and affects the normal coronary perfusion because of the LAD length.

Informed consent: Written informed consent was acquired from the patient for the publication.

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Videos 1-3. Angiograms showing the superdominant left anterior descending (LAD) coronary artery.

Video 4. The final angiogram scan after percutaneous coronary intervention

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Weird pacing spikes

A 74-year-old man with a history of severe mitral stenosis had received bioprosthetic mitral valve replacement. Ten years later, we implanted an epicardial pacemaker with VVIR mode because

of sick sinus syndrome. Three years later, we suspected the development of a junctional rhythm and epicardial lead fracture, based on high lead impedance (Fig. 1a). Moreover, we implanted a dual-chamber rate-modulated (DDDR) pacemaker through the left subclavian vein, while leaving the epicardial pacemaker in place, and shifting to OVO mode (Fig. 1b, Red circle). The 12-lead electrocardiogram revealed atrial and ventricular dual-paced rhythm (Fig. 1c). Five years after implantation of the DDDR-mode permanent pacemaker, we noted a pacing-induced cardiomyopathy, with left ventricle (LV) ejection fraction of 34%, despite optimized medical therapy. The cardiac resynchronization therapy pacemaker (CRT-P) was upgraded (Fig. 1d). Although biventricular pacing initially functioned well (Fig. 1e), high LV pacing threshold prompted us to adjust the LV lead from bipolar to unipolar (LV lead to can) pacing (Fig. 1f). Symptoms were relieved after implanting CRT-P. However, we noted weird pacing spikes, with regular rhythm at 65 bpm without interference of the biventricular pacing. These spikes were unaffected by adjusting the CRT-P mode from DDD to VVI (Fig. 1f). Thereafter, we learned the pacing spike was generated by the unremoved epicardial pacemaker. The pacemaker reached elective replacement indication and started to pace at VVI mode of 65 bpm. Thus, the epicardial pacemaker had no influence on the CRT-P, but continued to produce spikes on the electrocardiogram due to sensing and capture failure.

Informed consent: Informed consent was obtained from the patient.

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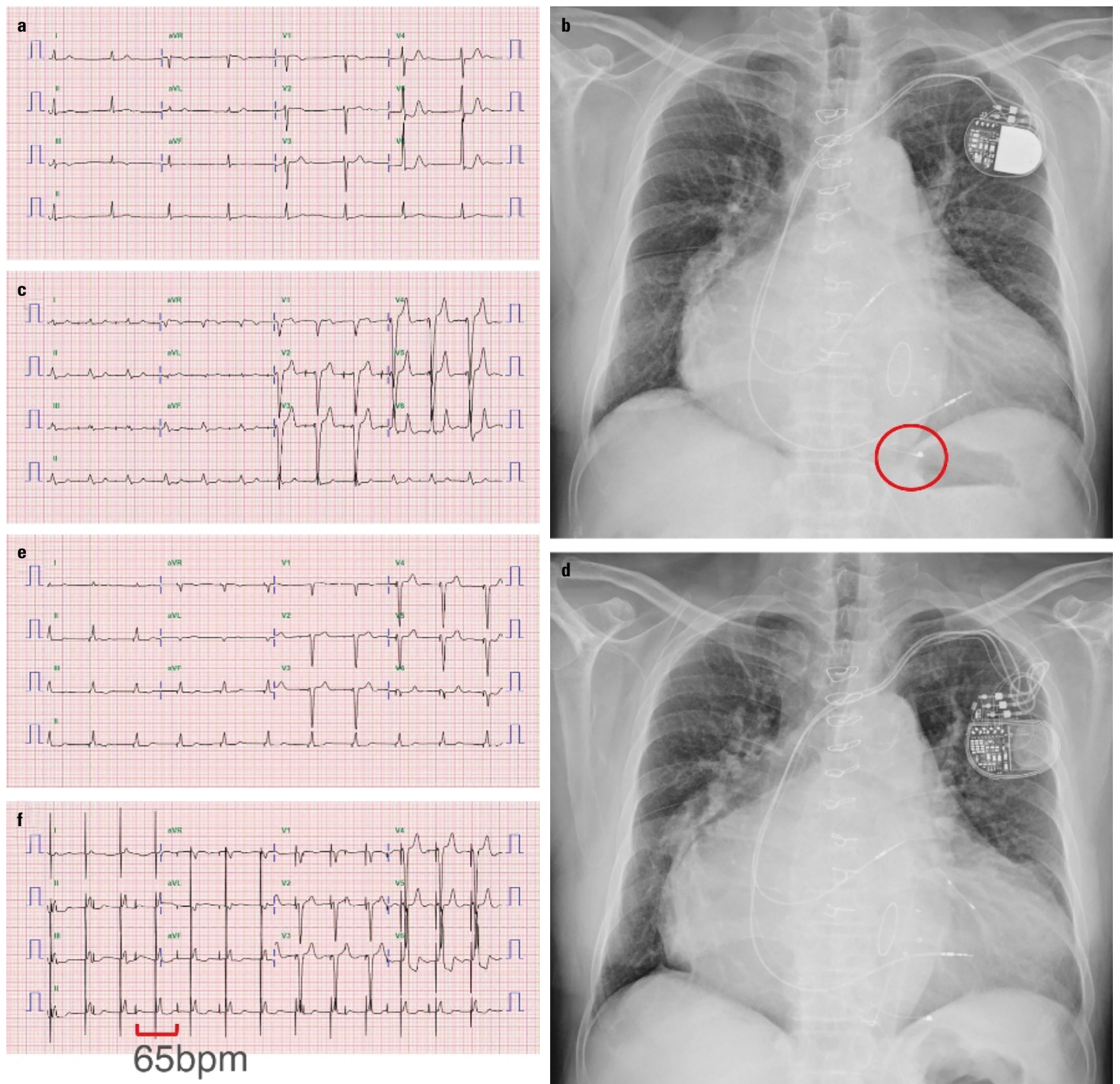


Figure 1. (a) The 12-lead electrocardiography (ECG) showed junctional rhythm. (b) The chest X-ray showed dual-chamber pacemaker leads and epicardial lead (red circle). (c) The 12-lead ECG showed biventricular pacing beats. (d) The chest X-ray showed biventricular pacemaker leads and an epicardial lead. (e) The 12-lead ECG showed biventricular pacing with VVI mode. (f) Weird spikes with fixed interval of 65 bpm in a 12-lead ECG