


Catheter ablation of premature ventricular contractions associated with a diverticulum in the anteroinferior left ventricular septum

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A 29-year-old female was admitted for a 2-year history of palpitations. A 24-h Holter monitoring detected 30 090 premature ventricular contractions (PVCs) accompanied with several non-sustained ventricular tachycardia episodes. Premature ventricular contractions exhibited a left bundle branch block, superior axis QRS morphology, and an rS pattern in V2–V6 on a 12-lead electrocardiogram. The three-dimensional activation mapping of the right ventricle revealed that the earliest site was on the anteroinferior ventricular septum close to apex, with 14 ms earlier to the QRS complex onset of the PVC. The PVCs were only inhibited transiently by radiofrequency ablation. Left ventricular (LV) endocardial mapping was performed via a retrograde aortic approach. The earliest ventricular activation with a near-field electrogram that preceded the QRS onset of the PVC by 16 ms occurred on the anteroinferior ventricular septum. In this site, radiofrequency ablation successfully eliminated the PVCs. On the electroanatomic map, this site was located on the right of the right ventricular ablation site (*Panel A*). Left ventricular angiography revealed a long tubular, multilobulated LV diverticulum, where the successful ablation site was exactly located (*Panel B*; [Supplementary material online, Video S1](#)). At 6-month follow-up, PVCs did not recur.

The full-length version of this report can be viewed at <https://www.escardio.org/Education/E-Learning/Clinical-cases/Electrophysiology>.

[Supplementary material](#) is available at *Europace* online.

