Image in cardiology

Bipolar Ablation Delivered Between the Pulmonary and Aortic Valve Cusps

Ablación bipolar entre las cúspides de las válvulas aórtica y pulmonar

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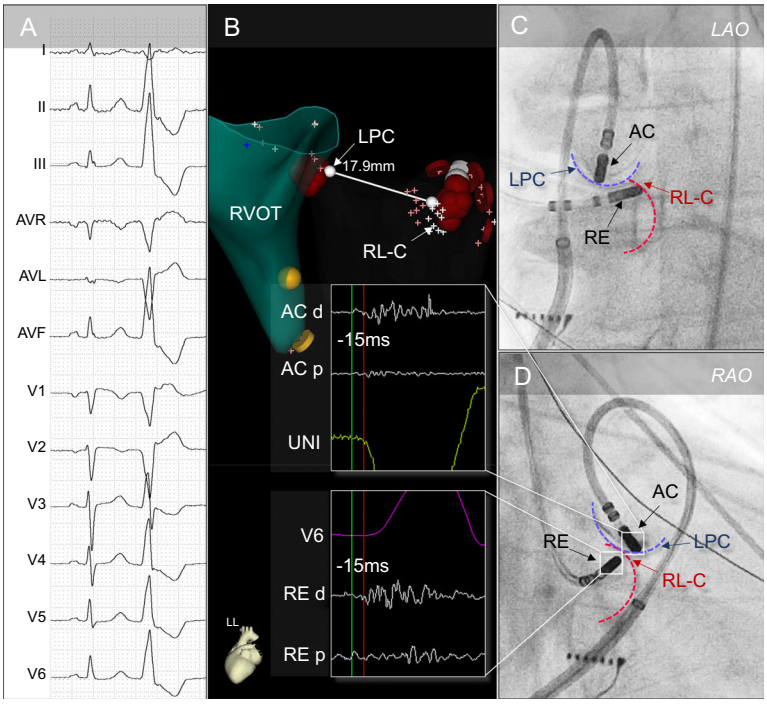

Figure 1.

A 66-year-old woman, after failure of class I, II and III antiarrhythmic drugs and 2 failed catheter ablation attempts for frequent (37 000/d) and symptomatic outflow tract (OT) premature ventricular complexes (PVC) (Figure 1A), was referred for a third procedure. Mapping performed with a 3.5-mm ablation catheter (AC) (Thermocool NAV, Biosense Webster) showed earliest activation of PVC in the left pulmonary cusp (LPC) and in the left/right coronary cusp commissure (RL-C) (Figure 1B). Extensive conventional ablation, performed within the pulmonary and aortic cusps and the left and right ventricular (RV) OT, failed again. PVC were suppressed only during prolonged applications, followed by immediate recurrence. Therefore, we decided to switch to bipolar ablation. The AC was advanced to the LPC and its location was confirmed with contrast injection via the AC (Figure 1C-D; video of the supplementary data. LAO, left anterior oblique; RAO, right anterior oblique). An 8-mm catheter (AlCath Gold, Biotronik) was advanced to the RL-C and was connected via a switchbox to a radiofrequency generator, instead of a dispersive patch, to use this catheter as a return electrode (RE). Two bipolar applications (31 W, 30 mL/min AC irrigation rate, maximal RE temperature of 39 °C and 199s total radiofrequency time) immediately eliminated the PVC with no recurrence during follow-up.

LPC has recently emerged as a possible site for ablation of OT-PVC. The proximity of the pulmonary and aortic cusps creates the possibility of successful bipolar ablation between these sites. This strategy can be effective when conventional approaches have failed. Moderate power settings and advancing the LPC using a U-shaped catheter in a retrograde manner is mandatory to avoid injury to nearby coronary arteries.

APPENDIX. SUPPLEMENTARY DATA

Supplementary data associated with this article can be found in the online version, at https://doi.org/10.1016/j.rec.2018.08.022.

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