

## Catheter ablation of an epicardial accessory pathway via the middle cardiac vein

### *Epikardiyal yerleşimli aksesuar yolun orta kardiyak ven yoluyla kateter ablasyonu*

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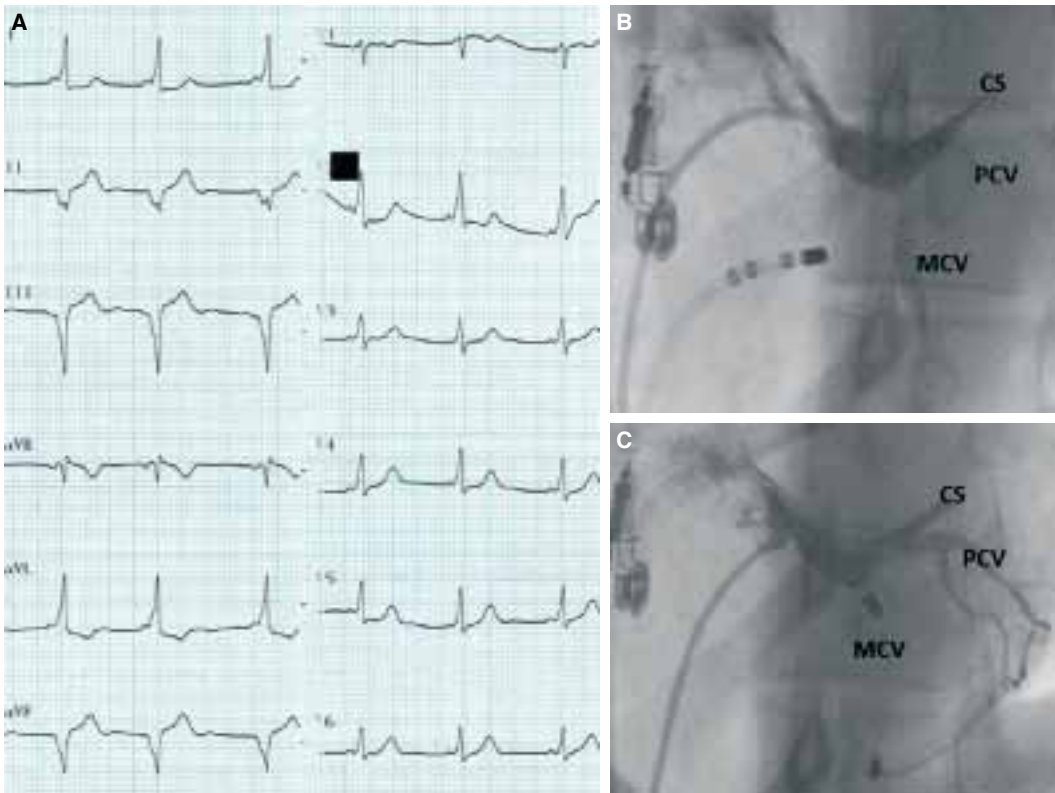
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Radiofrequency catheter ablation (RFA) of Wolff-Parkinson-White syndrome can be challenging and is associated with failure in up to 5% of cases. The main causes for initial failure were difficulties in catheter

manipulation, inadequate accessory pathway (AP) mapping primarily due to epicardial or parahisian localization, and multiple pathways or insertions. Epicardial APs are most commonly found in the posteroseptal (PS) and left posterior regions. This kind of epicardial AP results from a connection between an extension of the coronary sinus (CS) myocardial coat along the middle cardiac vein (MCV), posterior coronary vein (PCV), or the neck of a CS anomaly and left ventricular epicardium. Therefore, they can be successfully ablated only from inside the CS or its

branches, if endocardial ablation fails.

A 19-year-old female with recurrent supraventricular tachycardia was referred for an electrophysiologic study (EPS). The ECG demonstrated ventricular preexcitation indicating PS-AP (Figure A). After induction of the orthodromic atrioventricular reciprocating tachycardia (AVRT), it quickly degenerated to ventricular tachycardia requiring electrical cardioversion. Ventricular pacing revealed the earliest atrial activation of the CS ostium. However, right and left PS endocardial RFA attempts failed to ablate the AP. CS venography revealed the presence of a mildly fusiform MCV (Figure B), and RFA in this area (Figure C and Video 1\*) achieved successful ablation of ventriculoatrial conduction. Because of the close proximity of the CS ostium and posterolateral branch of the right coronary artery, caution should be exercised during RFA into the CS. A distinctive ECG clue for the presence of an epicardial AP in the PS area was a steeply negative delta wave in lead II.



**Figures**– Surface ECG showing preexcitation (A) and coronary sinus angiography showing the CS anatomy (B) and successful ablation site (C). \*Supplementary video files associated with this presentation can be found in the online version of the journal.