THE ANATOLIAN JOURNAL OF CARDIOLOGY

Official journal of the TURKISH SOCIETY OF CARDIOLOGY

# Inadvertent Right Ventricular Apical Exit After Stereotactic Body Radiotherapy for Ventricular Tachycardia: Every Cloud Has a Silver Lining

A 78-year-old man suffering from gastric cancer with ischemic cardiomyopathy and recurrent ICD shocks consented to ventricular tachycardia (VT) ablation. He had a previous endocardial VT ablation 1 year ago, and a stereotactic radioablation for his recurrent VT 4 months ago. We planned again left ventricular endocardial mapping for his incessant slow VT suggesting an apical exit site (Figure 1A). However, the activation mapping of LV did not cover the whole VT cycle length,

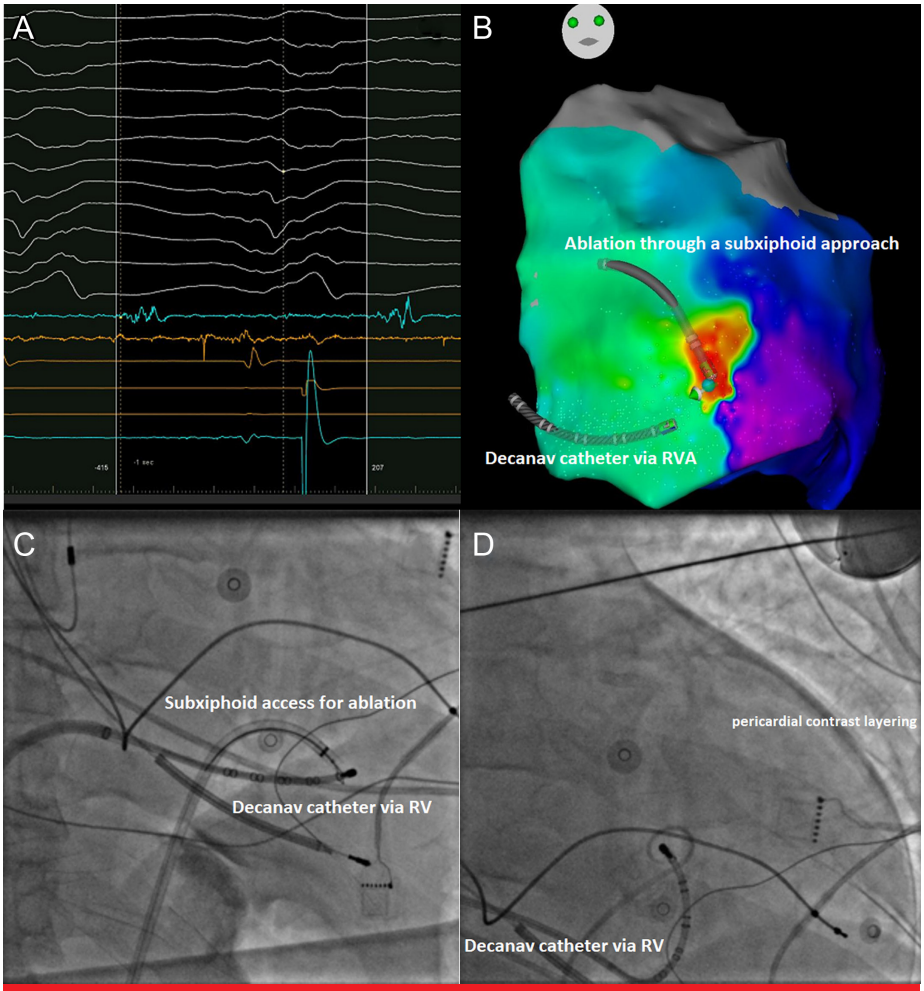


**Figure 1. Three-dimensional mapping shows the mid-diastolic potential during the tachycardia (A) and the successful ablation point in the epicardial area (B). Fluoroscopic images (C and D) show the inadvertent right ventricular puncture by the Decanav catheter and the rescue subxiphoid pericardial catheter placement. RV, right ventricle.**



## E-PAGE ORIGINAL IMAGE

**Elif Hande Özcan Çetin**[1]
**Meryem Kara**[1]
**Ahmet Korkmaz**[1]
**Özcan Özeke**[1]
**Serkan Çay**[1]
**Fırat Özcan**[1]
**Serkan Topaloğlu**[1]
**Dursun Aras**[2]

[1]*Department of Cardiology, Health Sciences University, Ankara City Hospital, Ankara, Turkey*
[2]*Department of Cardiology, İstanbul Medipol University, İstanbul, Turkey*

**Corresponding author:**
Özcan Özeke
✉ ozcanozeke@gmail.com

**Cite this article as:** Özcan Çetin EH, Kara M, Korkmaz A, et al. Inadvertent right ventricular apical exit after stereotactic body radiotherapy for ventricular tachycardia: Every cloud has a silver lining. *Anatol J Cardiol.* 2023;27(1):E-1-E-2.

DOI:10.14744/AnatolJCardiol.2022.2384

and we decide to map the right ventricular septal side instead of the epicardial access due to the patient's poor frailty. Fortunately, the mid-diastolic potential (MDP) was acquired in an unusual position (Figures 1A and 1B); however, the pericardial location of the mapping catheter was confirmed fluoroscopically (Figures 1C and 1D). An urgent surgical consultation was called for, and operative preparations were initiated. However, since no pericardial tamponade occurred and blood pressure remained stable, we continued the endo-epicardial ablation by ablating the MDP (Video 1). We decided to withdraw the first catheter immediately after the placement of a second percutaneous pericardial drainage catheter to avoid cardiac tamponade in the event of any increase in pericardial effusion. Then, a Mobicath sheath catheter was percutaneously inserted into the pericardium through the subxiphoid region while the first inadvertently inserted Decanav catheter remained in the pericardial space (Figure 1C and 1D, Video 2). Then, the first inadvertently inserted sheath was gently withdrawn under control by the second subxiphoid catheter left in the pericardial place for backup purposes. No cardiac tamponade developed in the patient without hemodynamic compromise. Furthermore, the patient remained free of ICD events for the 13 months follow-up period, suggesting the success of the intervention. One important aspect of our patient was the fact that even if the inadvertent pericardial puncture had been confirmed, the procedure would have been continued with the backup measure of setting a pericardial drainage catheter, to prevent an eventual cardiac tamponade in case of massive hemorrhage.

**Informed Consent:** Written informed consent was obtained.

**Video 1:** Three-dimensional mapping shows endo-epicardial propagation of incessant tachycardia.

**Video 2:** Both inadvertently inserted Decanav catheters via right ventricular exit and rescue Mobicath sheath catheter through the subxiphoid access are seen in the pericardial space by fluoroscopy.