

IMAGES IN ELECTROPHYSIOLOGY

Right Ventricular Subepicardial Hematoma Following Ventricular Tachycardia Ablation



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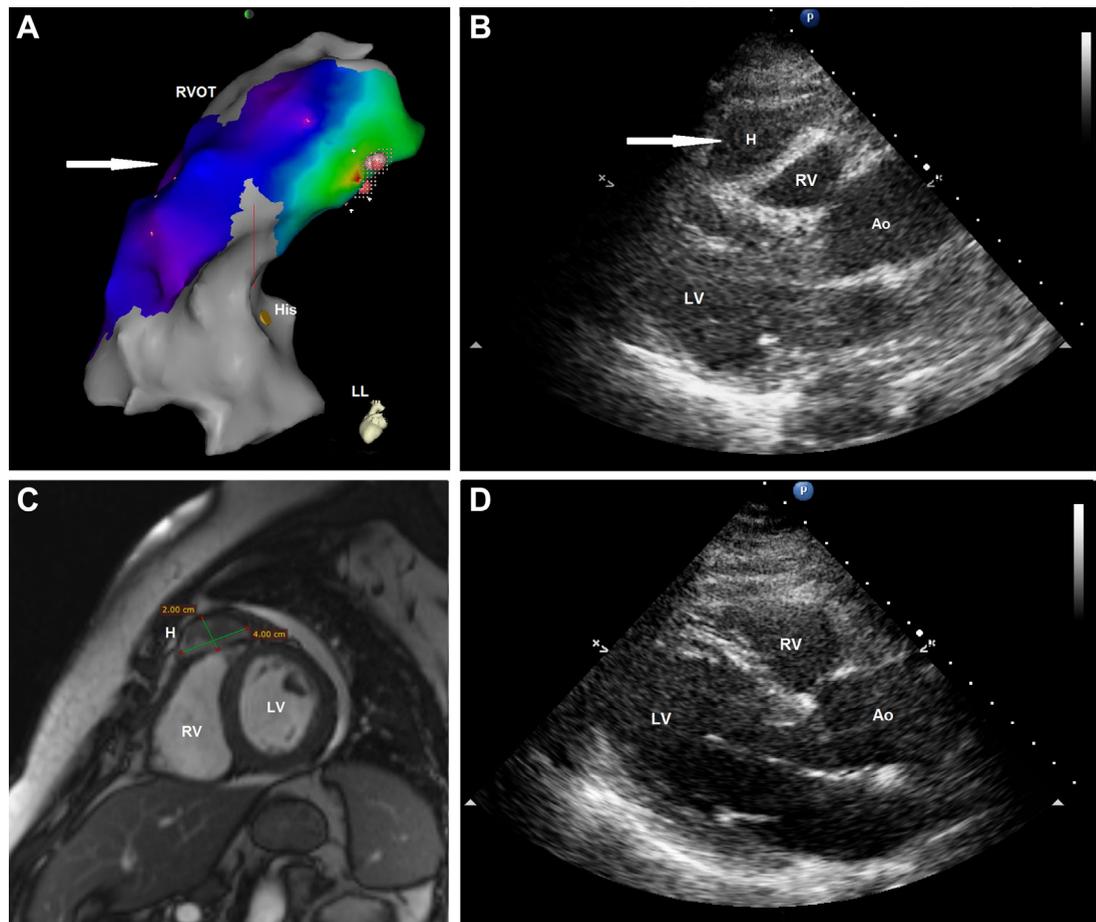
A 53-year-old woman with a history of sustained symptomatic ventricular tachycardia proceeded to catheter ablation. Endocardial electroanatomic mapping revealed ectopic focus in the posteroseptal right ventricular (RV) outflow tract. Focal radiofrequency ablations using outputs of 30 W of the earliest activation site were performed using irrigated tip ablation catheter. No “steam pops” were observed, although the catheter got stuck in the RV free wall during electroanatomic mapping. Two hours after the procedure, the patient suddenly complained of severe chest pain. Transthoracic echocardiography (TTE) in parasternal long-axis view demonstrated a large 4 × 2 cm-sized subepicardial hematoma in the RV free wall without communication to the RV cavity and a small pericardial effusion. Magnetic resonance imaging confirmed the initial diagnosis. Although the RV wall hematoma was large enough to rupture, conservative management option was decided

based on his stable vital sign and tolerable chest pain. Repeated TTE revealed no changes in the size of hematoma. A final TTE at 12 weeks after ablation procedure showed a complete resolution of the hematoma (**Figure 1**, **Online Videos 1, 2, 3**, and **4**).

A cardiac wall hematoma is a rare but potentially life-threatening complication of the interventional procedure. The management of cardiac wall hematoma is based mainly on the few case reports of its occurrence (1,2). This presentation demonstrates that conservative management with serial TTE is preferred in cases where the hematoma is not encroaching on cardiac chambers.

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FIGURE 1 Large Subepicardial Hematoma in the Right Ventricular Free Wall

(A) Electroanatomic map of the right ventricular outflow tract (RVOT) in left lateral (LL) projection. **Tags** and an **arrow** indicate the site of successful ablation and the location of the catheter jam, respectively. (B) Parasternal long-axis transthoracic echocardiographic (TTE) view demonstrating large subepicardial hematoma (**arrow**) in the RV free wall ([Online Video 1](#)). (C) Magnetic resonance imaging demonstrating a large subepicardial hematoma in the RV free wall with no communication with RV cavity in a sagittal view ([Online Videos 2 and 3](#)). (D) Parasternal long-axis TTE view at 12 weeks after ablation procedure demonstrating a complete resolution of the hematoma ([Online Video 4](#)). Ao = aorta; H = hematoma; His = His bundle; LV = left ventricle.

REFERENCES

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KEY WORDS ablation, subepicardial hematoma, ventricular tachycardia

APPENDIX For supplemental videos, please see the online version of this article.