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## LEFT ATRIUM

# High-density Grid Use for Left Lateral Accessory Pathway

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A 49-year-old woman with multiple documented episodes of narrow QRS complex tachycardia underwent electrophysiology study at our hospital. Baseline ventricular pacing demonstrated eccentric retrograde coronary sinus activation consistent with a left lateral accessory pathway (**Figure 1A**). Orthodromic tachycardia using a left lateral accessory pathway was repeatedly induced.

Transseptal puncture allowed access to the left atrium and left ventricle, where high-density mapping was performed across the mitral valve annulus during ventricular pacing using the Advisor™ HD Grid Mapping Catheter, Sensor Enabled™ and the EnSite Precision™ electroanatomic mapping system to localize the concealed left lateral accessory pathway. The open-window mapping technique<sup>1</sup> was used by collecting the absolute dV/dt bipolar electrogram from the high-density grid to help distinguish the mitral valve annulus, collecting both atrial and ventricular electrograms to delineate functional block located at the valve plane (**Figure 1B**). At the location of the accessory pathway, bipolar fusion and pathway potentials recognized and annotated on the high-density grid were able to showcase the atrial

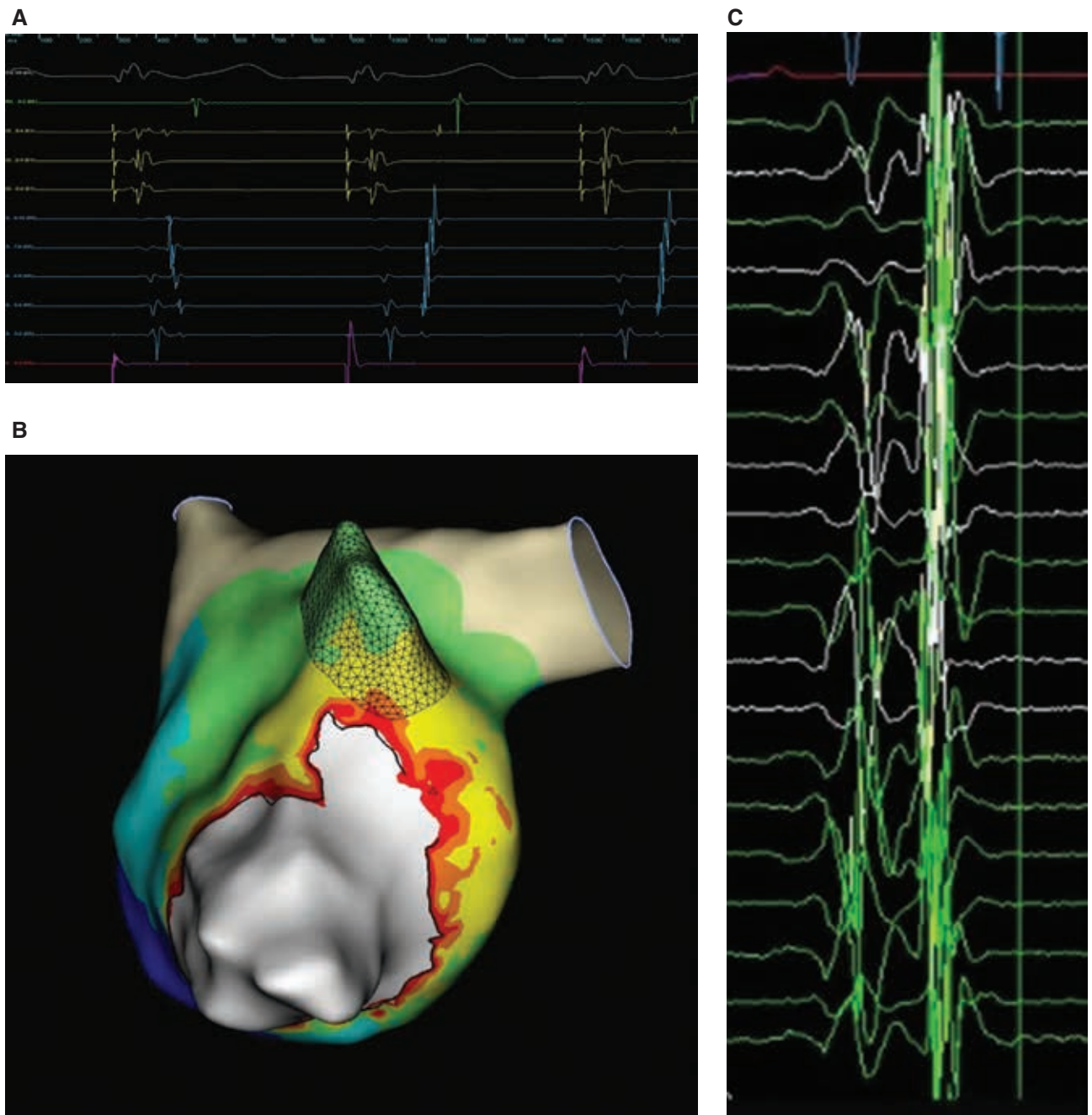
insertion point of the accessory pathway (**Figures 1B and 1C**). Additionally, during ventricular pacing and, similarly, during orthodromic supraventricular tachycardia, EnSite Precision™ open-window propagation and, in particular, the SparkleMap™ display feature (**Figures 2A and 2B**) allowed for more precise localization of the atrial insertion of the bypass tract by dynamically displaying wavefront propagation superimposed on top of the local activation timing and voltage maps (**Videos 1 and 2**).

Ablation was performed with the TactiCath™ Contact Force Ablation Catheter, Sensor Enabled™ at a power of 30 W and a minimal contact force of 10 g while the patient was in orthodromic supraventricular tachycardia. The tachycardia was terminated with a single lesion delivered to the mitral valve annulus at the atrial insertion site, subsequently eliminating the accessory pathway (**Figure 1E**). A thorough waiting period and electrophysiology study showed no evidence of accessory pathway conduction and the patient has remained symptom-free during follow-up.

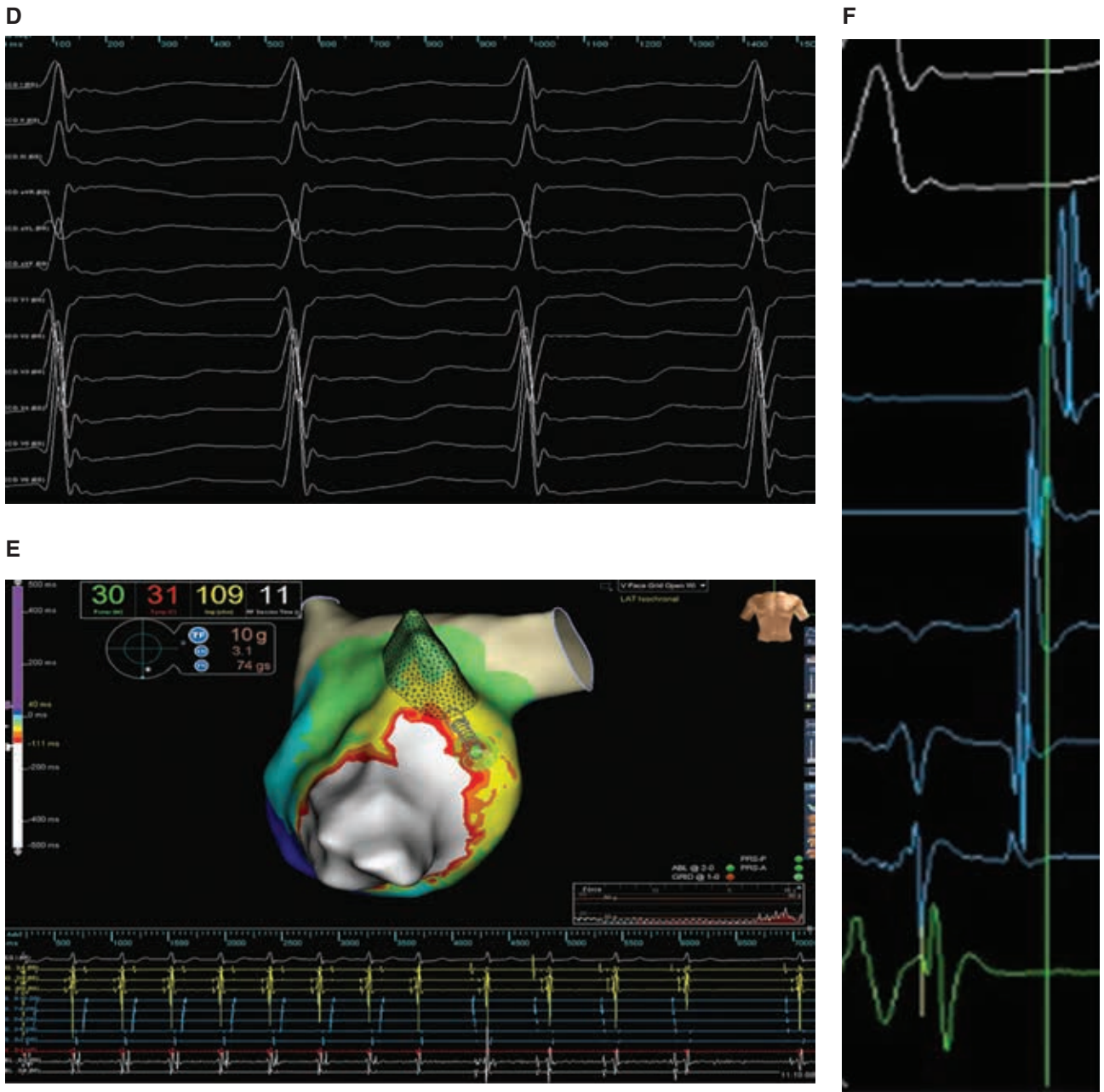
## Reference

1. Schricker AA, Winkle R, Moskovitz R, et al. Open-window mapping of accessory pathways utilizing high-density mapping. *J Interv Card Electrophysiol*. 2020 Aug 13. [Epub ahead of print].

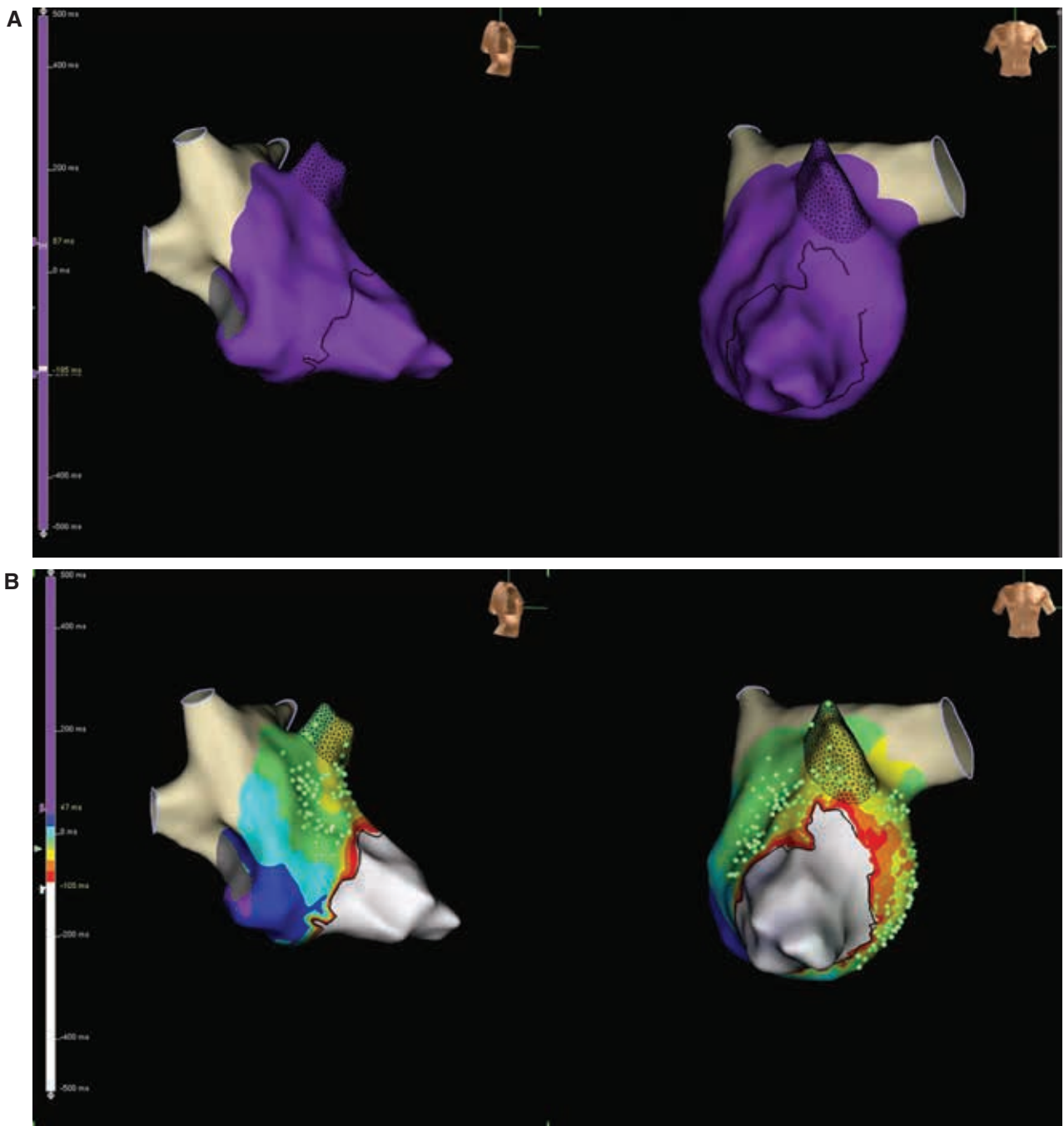
Ms. Paskman and Ms. Hammond are employees of Abbott. The other authors report no conflicts of interest for the published content. Address correspondence to: Robert Sangrigoli, MD. Email: rsangrigoli@dh.org.



**Figure 1:** **A:** Ventricular pacing showcasing retrograde activation switching from atrioventricular nodal to accessory pathway conduction. **B:** EnSite Precision™ open window map of the left lateral accessory pathway using the Advisor™ HD Grid catheter. **C:** Advisor™ HD Grid electrogram at the left lateral pathway location.



**Figure 1:** D: Clinical tachycardia 12-lead presentation. E: First burn termination during supraventricular tachycardia with the TactiCath™ contact force catheter. F: Ventriculoatrial fusion at the site of successful ablation on the pathway.



**Figure 2:** A: EnSite Precision™ open-window propagation video of the left lateral accessory pathway. B: EnSite Precision™ open-window map of the left lateral accessory pathway displayed with SparkleMap™.