February 12th Question

See Answer to February 5th Following Question

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A 56-year-old man with ischemic cardiomyopathy, left ventricular ejection fraction 30%, New York Heart Association class III symptoms on optimal medical therapy, dual-chamber implanted cardioverter defibrillator in place, and chronic kidney disease stage 4 (creatinine clearance, 20 mL/min) presents to the office after 3 implanted cardioverter defibrillator shocks. Baseline ECG shows first-degree heart block and QRS duration 115 ms. He has a dual-chamber implanted cardioverter defibrillator. On device interrogation, all 3 episodes are similar; a representative episode is shown (Figures 1 and 2). What is the most appropriate next step?

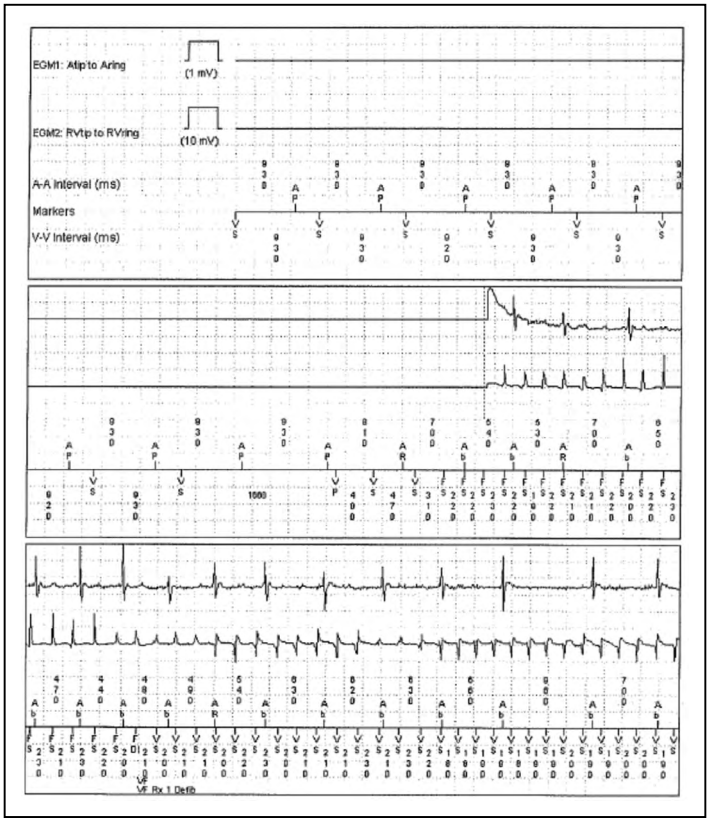

Figure 1. Representative device-stored episode that resulted in defibrillator shock. Contentious strips are shown with atrial electrogram (Atip to Aring), ventricular electrogram (RVtip to RVring), and marker channel with atrioatrial (A-A) and ventriculoventricular (V-V) intervals as classifed by the device.

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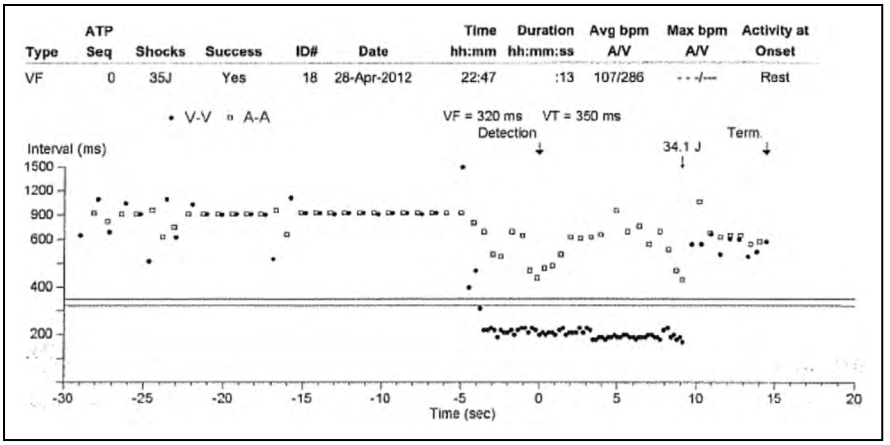

Figure 2. **Box plot of the episode shown in Figure 1.**

Answer Options

A. Increase β-blocker
B. Increase lower rate limit
C. Start amiodarone
D. Arrange catheter ablation
E. Change pacing mode to DDD

ANSWER TO FEBRUARY 5th QUESTION

A. Left anterior descending coronary artery

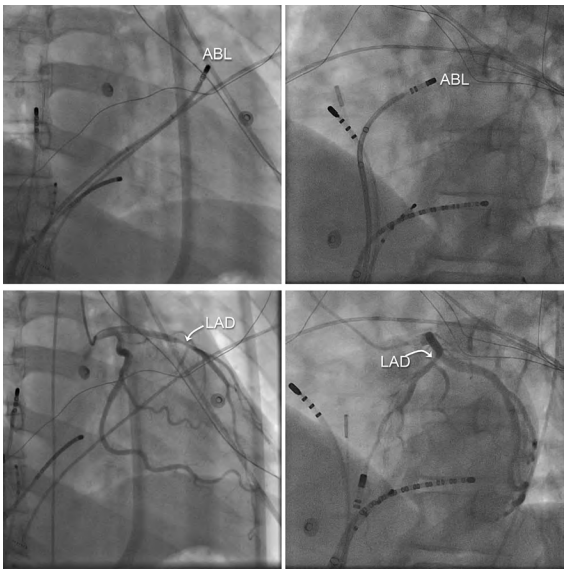

Figure. Fluoroscopic images of the ablation site (top panels) and selective left coronary arteriography (bottom panels).
The anatomic proximity of the ablation catheter (ABL) to the course of the proximal left anterior descending artery (LAD) should be correlated. The proximal LAD close to the ablation site demonstrates spasm post ablation. The left panels show right anterior oblique and the right panels show left anterior oblique projections.

Explanation

The top left panel (Figure, right anterior oblique) shows the tip of the ablation catheter (ABL) to be close to the anterior free wall of right ventricular outflow tract. The top right panel (left anterior oblique) shows the ABL catheter tip pointing leftward and posteriorly toward the interventricular septum. The catheter is in the right ventricular outflow tract close to the anterior interventricular groove on the epicardial aspect between the right ventricular outflow tract and the base of the left ventricle. The proximal course of the left anterior descending artery runs in this groove, across the thin right ventricular outflow tract myocardium.[1,2] The lower left (right anterior oblique) and lower right (left anterior oblique) panels in the Figure show spasm of the left anterior descending artery (arrows) noted on angiography performed after high-power ablation at this site.

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2. Benhayon D, Nof E, Chik WW, Marchlinski F. Catheter ablation in the right ventricular outflow tract associated with occlusion of left anterior descending coronary artery. *J Cardiovasc Electrophysiol*. 2017;28:347–350. doi: 10.1111/jce.13130.

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