

January 29th Question

See Answer to January 22nd Following Question

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A 51-year-old woman with asthma and recurrent palpitations for one and half year presented to Emergency Department in wide complex tachycardia and was electrically cardioverted. In the electrophysiology laboratory, both wide complex and narrow complex tachycardias were inducible with programmed electric stimulation. What can be surmised about the tachycardia shown in Figure based on the transition that occurred during manipulation of the mapping/ablation catheter across the tricuspid valve?



Figure. Twelve-lead electrocardiogram and intracardiac electrograms (recorded at 100 mm/s) showing the transition from wide-complex to narrow-complex tachycardia. ABL indicates ablation/mapping; CS, coronary sinus; d, distal; m, mid; p, proximal; and RVa, right ventricular apex.

Answer Options

- Dual tachycardia is present: ventricular tachycardia and supraventricular tachycardia
- Dual tachycardia is present: antidromic reentry tachycardia (using atriofascicular/nodofascicular tract) and atrioventricular nodal reentry tachycardia
- Accessory pathway (atriofascicular/nodofascicular) is not participatory in the tachycardia
- There is atrial tachycardia with bystander atriofascicular/nodofascicular tract
- There is atrioventricular nodal reentry tachycardia with bystander atriofascicular/nodofascicular tract

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ANSWER TO JANUARY 22nd QUESTION

C. Tricuspid valve annulus

Explanation

The premature wide QRS complexes are preceded by premature P waves. These clearly are premature atrial complexes that are aberrantly conducted with bifascicular block (right bundle branch and left inferior fascicular block) leading to wide QRS complexes. The premature P-wave morphology (wide negative in V_1 , negative in V_2 through V_4 , and negative in inferior leads) localizes to the inferior tricuspid annulus.¹ Therefore, we would anticipate mapping and ablating the earliest activation for the premature atrial complexes in the tricuspid annular region (Option C). As opposed to the premature atrial complex morphology in Figure, P waves originating from the mitral annulus (Option B) or other parts of the left atrium will have positive

deflection in V_1 . Aortomitral continuity (Option A) is not a common site for premature atrial complexes, and the left ventricular septum (Option D) and papillary muscles (Option E) are ventricular structures incapable of generating premature atrial complexes.

ACKNOWLEDGMENTS

I acknowledge Mitchell N. Faddis, MD, PhD, and Praveen K. Rao, MD, for providing the case for the January 29th Question.

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Circ Arrhythm Electrophysiol. 2018;11:
doi: 10.1161/CIRCEP.118.006206

Circulation: Arrhythmia and Electrophysiology is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231

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Print ISSN: 1941-3149. Online ISSN: 1941-3084

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