

## ECG Contest

# Response to ECG, April 2017



## Respuesta al ECG de abril de 2017

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The correct response is number 4. The ECG shows a slow rise of the initial upstroke of the QRS complex, with a Q wave > 40 ms in lead aVR, a monophasic R wave in lead V<sub>1</sub>, and an rS pattern in lead V<sub>6</sub>; together with the patient's disease profile, these findings are strong indicators of monomorphic ventricular tachycardia due to myocardial reentry (response 1, Figure 1).<sup>1,2</sup> Moreover, the ECG findings almost certainly exclude nodal reentrant tachycardia with right bundle branch block or monomorphic ventricular tachycardia due to bundle branch reentry (responses 2 and 3).

In the ECG, the polarity of the slow rise of the initial upstroke of the QRS complex was positive in leads V<sub>1</sub> to V<sub>5</sub> and the inferior leads and negative in lead I, a pattern compatible with a preexcited tachycardia via a left lateral accessory pathway (response 4). The sinus rhythm ECG (Figure 2) shows a heartbeat with no initial Q wave in V<sub>6</sub> and no initial R wave in V<sub>1</sub>, indicating the presence of preexcitation.<sup>1</sup>

During electrophysiological analysis, stimulation from the distal coronary sinus reproduced the tachycardia morphology (Figure 3). A 1:1 conduction perimitral atrial flutter equivalent to the clinical tachycardia was induced via a left lateral accessory pathway. Both arrhythmias were successfully ablated.

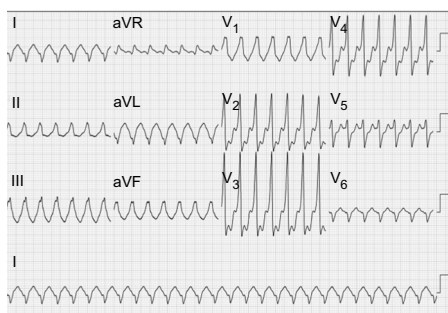


Figure 1.

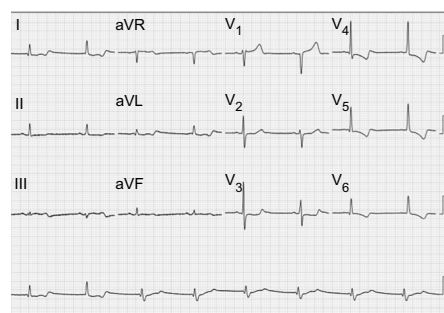


Figure 2.

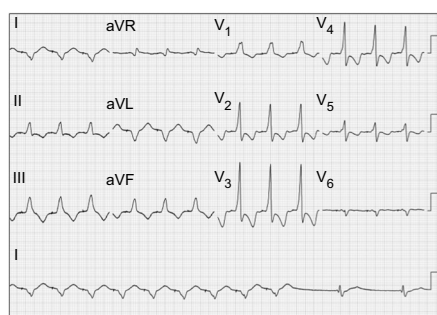


Figure 3.

## REFERENCES

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2. Jastrzebski M, Kukla P, Czarnicka D, Kawecka-Jaszcz K. Comparison of five electrocardiographic methods for differentiation of wide QRS-complex tachycardias. *Europace*. 2012;14:1165–1171.

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