

## ECG Contest

## Response to ECG, April 2020

## Respuesta al ECG de abril de 2020

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Figure 1.

The correct answer is option 1. On observing the device (figure 1: upper trace, pacing channel; middle trace, atrial electrogram; lower trace, ventricular electrogram), T-wave oversensing can be seen (ovals). This affects detection of the following intrinsic atrial activity in the blanking period (Ab), which is not followed by ventricular pacing.<sup>1</sup>

Atrial activity corresponds to sinus rhythm at 90 bpm, with occasional far-field ventricular sensing (Ab intercalated between As and Ab from the third complex onwards), not to atrial tachycardia (response 2 incorrect).<sup>2</sup>

There is no progressive lengthening of the atrioventricular signal prior to the onset of slow frequencies, and Wenckebach behavior at this frequency would not be expected (response 3 incorrect).<sup>2</sup>

There is no sinus tachycardia that could lead to capture of every other P wave within the postventricular atrial refractory period (response 4 incorrect).<sup>2</sup>

Reductions were implemented in ventricular sensitivity (avoiding T-wave oversensing) and atrial sensitivity (avoiding far-field sensing), thereby resolving both problems.

## REFERENCES

1. Barold SS. Complications of Pacemaker Implantation and Troubleshooting. In: Singer I, ed. *Interventional Electrophysiology*. Williams & Wilkins; 1997:935–1054.
2. Levine PA, Love CJ. Pacemaker diagnostics and evaluation of pacing system malfunction. In: *Clinical Cardiac Pacing and Defibrillation*. 2nd ed. WB Saunders; 2000:827–875.

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